THE ECONOMICS OF MONEY, CREDIT AND BANKING

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TO

MY MOTHER AND FATHER,

THIS BOOK IS AFFECTIONATELY

DEDICATED.

PREFACE

Perhaps George Berkeley, famous Bishop of Cloyne, was wiser than his generation when he asked, "whether, in the rude origin of society, the first step was not the exchange of commodities; the next, the substitution of metals by weight as the common medium of exchange; after this, the making of coin; lastly, a further refinement by the use of paper with proper marks and signatures? And whether this, as it is the last, is not also the greatest improvement?" Had he lived a century later, this brilliant predecessor of the father of political economy would not have stopped his question with the bank note—he would have carried it one stage further, and included the bank check by means of which an overwhelming portion of the payments made in the United States is effected today.

While we are still upon a gold standard, and occasionally handle coin in our everyday transactions, the financial organization of society has evolved to a point at which it is necessary to examine much of our body of theoretical knowledge in the light of the facts which surround us. To an increasing extent, bank credit tends to perform the functions of money, which were originally regarded as typical of a metallic coinage. As the only financial institution which can create purchasing power, the commercial banks have become more and more important as economic organization has assumed the nature of a credit economy. The commercial banking system, under the leadership of the central banks, has in all countries become the nucleus around which the economic organization of society is built up.

Whether we regard the problems connected with the general level of prices and the value of money, or those which

exist in regard to the supply of capital and its distribution among the numerous business enterprises which seek to use it, we find that commercial banking policy exercises a predominant influence. Nor is it possible to escape from the conclusion that these are the two most important problems which face the world today, so that any study of the financial system must be undertaken in such a manner as to throw them into bold relief. If an apology were needed for this addition to the multitude of existing books dealing with the subject of money and banking, it would be found in this fact. With one or two brilliant exceptions, all of the books which have come to my attention adopt the institutional method of approach. The reader is offered a great deal of information in regard to the structure of existing financial institutions and to the legal regulations under which they operate. But the mass of detail often tends to obscure any clear demonstration of function, and leaves the student with an imperfect idea of the part which the financial system plays in the economic activity of a modern nation.

In this book the functional method of approach has been uniformly followed. Matters of structural detail and legal regulation have been omitted in all those cases in which they were not of importance to an understanding of the economic functions under discussion. As a result, it has been possible to give more attention to the economic and social results of financial policy, permitting the reader to see the financial system as a coordinated organization and to appreciate some of the problems with which it is faced.

While the opinions expressed in this book are my own, I should like to acknowledge my obligation to the many friends who have assisted me with advice and information. In particular, I am indebted to my friends and colleagues, Professors W. C. Schluter and A. E. Taylor, for having read and criticized the manuscript, as well as to Miss A. B. Rice for her

assistance in the preparation of it. Finally, I must acknowledge the debt which I owe to my wife, whose unfailing cooperation and assistance have made possible the writing of this book.

F. Cyril James

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May 2, 1930.

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THE ECONOMICS OF MONEY, CREDIT AND BANKING

CHAPTER 1

MONEY AND THE SOCIAL ORDER

Money as a Means for Satisfying All Desires.—Even if we agree with Saul of Tarsus that, "The love of money is the root of all evil," it would be difficult to deny that the individual who possesses adequate supplies of money can obtain everything that he desires to satisfy his slightest fancy. Should he desire to grow oranges on the northern plains of Canada, they will be grown; and if he requires a Venetian gondola, in which to spend his leisure hours upon the waters of the Potomac, it will be procured for him. Money is the dominating influence in the present economic order of society, since we have chosen to measure success or failure in terms of a monetary standard. Business, moreover, is entirely motivated by money profits, and all of the innumerable technical processes of production, transportation, and distribution are carefully interrelated in such a way that the final sale of the commodity shall exceed the aggregate of all of the costs connected with its preparation for the market by a varying margin. That margin constitutes profit—and only those commodities and services which show reasonable probability of adequate profits will be able to attract the capital, labor, and managerial ability necessary for their production.

To point out that mistakes are sometimes made, that capital and labor are expended upon some enterprises which ultimately fail to return a profit, or even entail a substantial loss, does not in any way alter the truth of the preceding statement. Such an enterprise is judged by the common standards of business to be a failure, whereas those undertakings which give rise to

monetary profits are considered successful and are rated among themselves in the order of their profitableness. A moving picture theatre, which offers a return of 8% upon the capital invested in it, will be a better business proposition than the erection of dwelling houses which only offer a return of 5%, although it might be contended that the scarcity of available dwellings rendered the latter enterprise much more valuable if the two should be measured by non-monetary standards.

Doubtless, there are some things which money cannot buy, but they are very few in number and tend to decrease. As Professor Davenport has remarked, it costs a substantial amount of money to be brought into the world, and an even larger sum to secure a respectable burial. Between these events money is a valuable accessory in the attainment of almost everything that one desires. Health may be a natural gift, but it is very much more easily protected and maintained by the man who can afford long holidays and adequate medical attention. Even social distinction, it is rumored, can be purchased by those who desire to attain it, and have as their only recommendation an adequate supply of money.

The importance of money in the field of exchange is so often emphasized by economists that we are apt to forget its influence in other fields. The influence of money is today equally evident in the field of production. The manufacturer is enabled by the use of money to purchase those raw materials which he needs, to erect the particular kind of factory which is most suited to his requirements, and to employ the most efficient kind of labor. He keeps his accounts in terms of a monetary unit, and is enabled to state definitely a money price at which he will deliver goods to a buyer at some future time. All of the elements which enter into his business technology can be expressed in terms of a single monetary unit, and so can easily be brought together to form a basis for any decision which he has to make.

Similarly, in the field of consumption, money is a basic necessity. The family income is a definite sum of money which must be used in the purchase of the various necessities and luxuries which it desires to consume. How much of the income shall be paid away as rent; how much on clothes? Would it be more desirable to purchase an automobile or to spend the summer in Europe? Questions such as these would be almost insoluble if measured by a purely subjective standard, and only by reducing them to the common denomination of the monetary unit is it possible to judge the relative merits of the various uses to which the family income might be put.

While it may readily be argued that a society dominated by money is not the best type of society, it is clear that the student of money and banking is concerning himself with "basic processes which permeate to the uttermost ends of the science of economics, and which interrelate themselves with all fields of economic activity." While we may criticize the existing social order, it is necessary that we understand it fully if we are to make any permanent improvements in it. The world has had adequate evidence that unintelligent attempts to sweep away the evils of the present system have usually destroyed the system itself and given place to economic chaos. In the days that are yet to be, the pecuniary society of our era may seem more foolish than the feudal system does to us, but it is imperative that we should understand the environment in which our lives are cast in order to derive the maximum advantage from it.

What Is Money?—The characteristic difference between money and other goods lies in the fact that, while commodities in general serve the purpose of direct consumption, or of continued use by the individual who has acquired them, money acts as a facilitating medium for the exchange of those goods and is only acquired by the individual with a view to its subsequent use in the purchase of economic goods which are desired

for consumption. The difference is primarily a functional one, and in a large number of cases no physical distinction is possible. Gold, for instance, can be used as money when it is coined, but the coins can easily be melted down and used for the purpose of filling teeth or making ornaments. It is clear therefore that our definition of money must include all of those things which are customarily used to facilitate the exchange of goods, and must exclude all others, so that in this book *the term "money" will be used to denote all those things which are generally accepted in payment for goods or in the settlement of other business obligations, within a given economic area.*

In order to facilitate the exchange of goods, however, money must perform two distinct functions. On the one hand, it serves as a *standard of value,* an abstract unit in terms of which the value of any article is measured and by which the value of different articles can be compared. On the other hand, money must serve as a *medium of exchange,* i.e., it must exist in some tangible form which is easily recognized and willingly accepted by the seller in exchange for the commodities which the purchaser desires. Many other functions of money are named by various writers, but these two are of the first importance, and, if rightly understood, they include all of the others which have been suggested from time to time. But they differ widely from each other. Indeed the same commodity will not always perform both functions, and before we proceed to the more detailed discussion of the use of money both as a standard of value and as a medium of exchange, it will be profitable to review briefly the evolution of money itself.

The Evolution of Money.—"In order to avoid the inconveniences of . . . barter, every prudent man in every period of society, after the first establishment of the division of labor, must naturally have endeavored to manage his affairs in such a manner as to have at all times by him, in addition to the produce of his own labor, a certain quantity of some one com-

modity, such as he imagined few people would be likely to refuse in exchange for the produce of their own industry." [1] This quotation from Adam Smith is among the best known of the rationalistic interpretations of the origin of money. Primitive man found that barter was a difficult process, and therefore he invented a common medium of exchange—a commodity of universal acceptability—to simplify his daily life.

When we recognize an institution as useful, it is perhaps hard to refrain from thinking that our early ancestors must also have realized its usefulness and, therefore, set out to create it. But historical research and a better knowledge of the backward races of our own age have convinced us that the rationalistic theories of the origin of money are erroneous. Tribal development was undoubtedly far advanced when personal property in any article came to be recognized, and even when this change in social standards had taken place, we are still a long way from that complete barter economy which is often imagined to have preceded the use of money. The earliest method of acquiring the property of another was probably by a simple act of plunder in which the stronger forcibly took possession of the property of the weaker. Later, there arose the practice of exchanging gifts between equals, and there is ample evidence to show that some recognition of the necessity for equal value in gifts given and received was felt at an early date. From this situation it was a natural step to that stage in the development of exchange in which the donor of a gift might specify the particular kind of present which he would like to receive in exchange. With that development we are at the beginnings of a barter economy as that term is generally understood.

Before this stage had been reached, however, the need for some standard by which to measure the value of the various commodities must have been realized. Obviously, it would be impossible to compare the value of two gifts unless there

[1] *Wealth of Nations*, Bk. I, Ch. IV.

existed some standard by which value could be measured. The earliest standard of measurement seems to have been purely *quantitative,* and even during the last century we find that the inhabitants of the Bismarck Archipelago used such a standard, giving in exchange for a fish a length of cowry shells strung together, which was exactly equal to the length of the fish. At a comparatively early date however, a *qualitative* standard was set up in the form of conventional price scales, in which were set out the relative exchange values of those articles which customarily changed hands among the members of the tribe. The following example of such a scale, existing among the natives of the Western Soudan is given by Helfferich:[2]

1 slave = 1 double-barrelled gun and 2 bottles of powder
= 5 oxen
= 100 pieces of cloth
1 string of glass beads = 1 gourd bottle of water
= 1 measure of milk
= 1 armful of hay

These scales, like most customary prices, tended to change only at rare intervals, so that there existed at all times a definite relationship in value between any two commodities which were likely to be bartered against one another. No single commodity was at first singled out as money, since almost all of the commodities entering into exchange were included in the table, but it is probable that with the progress of time some one commodity, or some few commodities, were recognized as possessing a greater general acceptability. The form in which the political or religious leaders required contribution to be made may have influenced this considerably, as may the demands of neighboring tribes with which trading relations had been established. It is certain, however, that the recognition of a general medium of exchange such as that suggested by Adam Smith cannot have preceded the formation of price scales, since the

[2] K. Helfferich, *Money* (English edition), Pt. I, Ch. I, in which there is a very helpful discussion of the whole problem.

use of a general medium of exchange itself presupposes the use of that medium as a unit in such a scale.

The form taken by the general medium of exchange, or to use a shorter form, of money, has varied greatly from one place to another. Furs in Canada, wampum in the American colonies, cattle in Greece, brick tea in Siberia, have all served this purpose. It is of interest to notice that in no case have those things been selected which were vitally necessary to life. If a man has not enough grain to feed himself, he will be unwilling to part with any of it, while if each member of the community possessed an adequate supply, nobody would be willing to increase his stock by the process of exchange. Clearly, therefore, the article must be a luxury, but one which is highly prized by the community, and in all ages those articles which were useful as ornaments have best satisfied this need. This has been true of the American wampum and the East Indian cowry shells, but it has been most emphatically demonstrated in the case of the precious metals which, because of their brilliance and lustre, have been highly prized as ornaments since the earliest times. It is largely to this fact that we can trace the use of gold and silver as the monetary metals of our own age, although in practice they have proved to have certain additional qualifications which are discussed below.[3]

Once the community had come to recognize some general medium of exchange, it had set out on that long path which leads ultimately to the pecuniary society as it exists today. And we may add with equal truth that the development is not yet complete. Today is only one stage on the road, and the place of money in the economic organization may be very different a few centuries hence from what it is now. Nor has the evolution been steady in the past. The development of money and the growth of division of labor have interacted upon one another so that at times there has been a sudden increase in the use and importance of money, as at the time of the Industrial

[3] See pp. 21–26.

Revolution, while during long centuries, such as the Middle Ages in Europe, it might seem that money was becoming less important than it had been in the days of the Roman Empire.

The Confusion of Money and Wealth.—Money has grown to play an important part in the social organization, but there have been many who, by reason of a lack of clear ideas as to its nature and functions, have expected of money more than it could perform. The term "money" has already been defined as comprising those things which are not directly used for consumption but to facilitate the exchange of goods. It is the standard in terms of which the value of economic goods are expressed, so that a house is valued at $50,000 or an individual has a fortune of $1,000,000. If I own a sum of money in excess of $50,000 I can purchase the house, so that from the point of view of the individual, money may be regarded as a form of wealth and is so regarded. It is easy, therefore, to fall into the illusion that money constitutes wealth from the viewpoint of a community.

The *wealth* of a community, however, consists not of money but of those useful commodities which are within its borders, the raw materials and finished products, the industrial equipment, the railways, etc. An increase in the quantity of money will not of itself increase this total quantity of wealth, nor will the community be directly benefited by the increase. Yet we find a widespread belief that an increase in the quantity of money within a community presents a universal panacea for all economic ills. "No complaint is more common than that of a scarcity of money," wrote Adam Smith in 1776, and from the earliest days of recorded history to the present time the same complaint has been heard.

Among the earliest exponents of that belief we might list King Midas, that mythological ruler of Phrygia. In return for his kind treatment of Silenius, the latter granted his request that all things which he touched might turn into gold—a desire

which to the temperate minds of the Greeks brought swift retribution, because Midas was unable to eat a single mouthful of food without turning it into the rather unpalatable yellow metal!

Modern exponents of the theory have not been so readily convinced of its fallacy. The inflationists, like the poor, we have always with us, fervently believing that, if only the government will increase the volume of money, the country will be cured of all its economic ailments. The greenback movement and the free silver movement of the last century, are, like the writings of several English economists shortly after the Napoleonic War, recognized as fallacious—but there have been marked evidences during the last ten years that the doctrine of inflationism is showing its head under newer caps.

Even among those who would not support the doctrines of inflationism in their crudest form, there are many whose ideas contain an equal confusion between money and wealth. The old doctrine of mercantilism, while it had several valuable features in regard to direct assistance of industry by the government, was largely aimed at increasing the stock of money within a given country. Exports of commodities must always be in excess of imports, so that a "favorable balance of trade" should cause the importation of gold or silver. In a more prevalent form, the confusion is apparent in the injunction so frequently met with to spend money within your own community, or to "buy at your neighborhood store." In the desire to increase the quantity of money within the community—whether it be a small town or a large country—no account is taken of the fact that what is really important is not the stock of money, but the stock of useful goods. When a deliberate effort is made to decrease that stock by export, in order to increase the quantity of money within the community, not only does no benefit result, but the community has deliberately impoverished itself.

Suggestions for Further Reading

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CHAPTER 2

A MEDIUM OF EXCHANGE

Money a Medium of Exchange.—The study of the historical evolution of money throws into sharp relief its function as a general medium of exchange; even in the modern economic world this function is so important and stands out so clearly in the minds of everyone, that it is often regarded not only as the most essential, but even as the only essential one, from which all of the other functions are derived. Thus we find that Francis Walker defines money as, "that which passes freely from hand to hand throughout the community in discharge of debts and in full payment of commodities; being accepted equally without reference to the character of the person offering it and without intention on the part of the receiver to consume it." What definition could more accurately describe a medium of exchange? F. M. Taylor goes even further and defines money as, "something which is specifically designed for, and devoted to, serving as a medium of exchange," while even Alfred Marshall, who pays full tribute to the importance of the other function of money, points out that at the present stage of economic development, "money, for current business, needs only to be a clearly defined, easily handled, and generally acceptable medium of exchange."

That money has a second, and equally important function, has already been pointed out—but this does not prevent us from realizing the fact that a general medium of exchange exercises a tremendous influence on the nature of the social organization. The recognition of a general medium of exchange implies that the individual who wishes to dispose of the products of his

labor will willingly accept, in exchange for those products, certain tangible commodities which he has no desire to consume, but which he believes will prove acceptable to those other individuals from whom he wishes to obtain the goods and services needed for the satisfaction of his immediate wants. Instead of the direct exchange which we know as barter, we have an indirect exchange. Under the older system, which existed in parts of Ireland within living memory, the journeyman tailor would go from one farmhouse to another and stay at each place long enough to make up into clothing for the farmer's family the materials which had been spun and woven by the women of the household. In return for his services the tailor would receive his board and lodging at the farm, and possibly a small gift of produce at the end of his sojourn. Today, with a more highly developed money economy, the farmer will take his produce to market and sell it for money—purchasing the necessary clothing for himself and his family by the expenditure of an appropriate part of the money received from these sales.

In thus serving as a medium of exchange, money performs three distinct operations. In the first place, it enables the farmer to dispose of his products readily in exchange for some commodity which he does not immediately desire to consume, i.e., it facilitates the disposal of economic goods. In the second place, it may well be the case that the farmer does not immediately wish to spend all of the money which he has received in exchange for his produce. Probably the money which he receives at the end of the harvest period will have to purchase all of the commodities and services needed by him and his family throughout the winter and early spring, an arrangement which would be attended by some difficulty under a system of barter. The general medium of exchange is, therefore, called upon to act as a store of wealth during the interval between the sale of the original goods and the purchase of the commodities desired for consumption. Thirdly, money facilitates the

purchase of these latter commodities, since it is generally acceptable to all those who have commodities or services to sell.

It is frequently contended that money has not fulfilled its function as a medium of exchange until all these stages of the transaction are completed, and the farmer is in possession of the ultimate goods which he needs. In the case of unilateral transactions in which goods are exchanged for money, without any subsequent exchange of money for goods, or in that much wider class of payments, such as fines and taxes, in which there is no immediate tangible return, some writers prefer to speak of money performing a separate function as a *means of payment*. This is largely a matter of terminology, since there is a clear dependence of the function of money as a means of payment upon its use as a general medium of exchange. The two are inextricably mixed, and it is not of any particular importance that we should attempt to separate them. The existence of a medium of exchange, which is generally acceptable throughout the community, will naturally mean that it will be used, not only in the completed exchanges of goods for goods, but also for all those unilateral payments which must be made.

The Advantages of a Medium of Exchange.—At first sight, it might appear that the introduction of a medium of exchange would tend to make the economic activities of the individual much more complex than they had been under the older system of barter. In reality this is not the case. Under a system of barter every exchange must be predicated upon the mutual coincidence of the wants of two individuals, so that our tailor had to wander from one farmhouse to another until he arrived at the particular farm which needed his services at that moment. Until he found that farm, he would be unable to satisfy his needs for food and shelter. By the introduction of a medium of exchange we have generalized the whole economic system. Commodities which have been produced can be

sold in the market for money, and the producers in their turn can use the money so received for the purchase of the particular commodities which they desire. "Money in its capacity as a general medium of exchange has freed production from the fetters of specific *individual* demand, just as improvements in transportation have freed it from dependence on *local* demand."

The simile is a good one, for we can conveniently regard the medium of exchange as a sort of transportation agency, by which goods are carried to the individual in need of them. But the implications of that freedom, which the use of a medium of exchange has given to economic activity, are not always realized. Under a barter economy life would need to be very simple, because each family would be compelled to produce most of those things which it needed. But we know that division of labor and geographical specialization of production enable wealth to be produced with a minimum expenditure of economic energy—and the development of division of labor is as dependent upon the evolution of a general medium of exchange as is geographical specialization upon the development of transportation facilities. The intensification and expansion of industrial activity, which began with the Industrial Revolution, could only have occurred in a society which was organized on a pecuniary basis, so that the use of a medium of exchange, by making possible extensive division of labor, has greatly facilitated the rapid and phenomenal increase in the physical wealth of the world.

Kinds of Media of Exchange.—Throughout the preceding paragraphs, we have spoken of a general medium of exchange as though it were some one specific commodity, whereas in practice it is clear that there are several different kinds of media. When I wish to purchase a packet of cigarettes, I give in exchange for it a few silver coins; to purchase a railway ticket I use several pieces of paper bearing the stamp of the government; in settlement of my tailor's bill I give a check; while at

Christmas I gave to my niece a small gold coin. Each of these various forms of money serves equally well as a medium of exchange, and it is perhaps desirable that we should find out something about them before we go any further with the discussion of their merits and history.

At the very outset we can divide money into two broad classes—*particular money* and *common money*. Particular money, as its name implies, is less generally accepted throughout the community than is common money. It consists of checks and a few other credit instruments, which are of tremendous importance in the modern world, and are used to settle the great majority of business transactions. But before we are willing to accept a check in payment of a debt which is due to us, we must know something about the person who is drawing the check. We must have confidence in his financial soundness and his integrity, so that particular money can only be used to settle transactions between individuals who are known to one another. Common money, on the other hand, is universally accepted throughout the community in which it circulates. Paper money, such as the greenback or the Federal Reserve note, as well as coins of all metals, are readily recognizable for what they are. Having been issued by the Government of the United States, or by an institution appointed by that government, they are accepted throughout the length and breadth of the country at their face value, and no question is asked as to the character or financial standing of the person from whom they are received.

But although, in the majority of cases, common money will be readily accepted in all transactions, there have been periods during which the community was unwilling to accept certain kinds of money. Thus, during the period immediately following the Civil War, the inhabitants of California refused to accept the paper money issued by the United States and insisted that all debts be paid in gold coin. To some forms of common money, however, the government has given the power

of legal tender, that is to say, that legally such forms of money must be accepted by the creditor when they are offered in payment of a debt. If we should subdivide common money according to this criterion, three distinct groups would emerge —*full legal tender money, limited legal tender money,* and *optional money.* Under the heading of full legal tender, we would include all of those forms of money which the creditor is compelled to accept, no matter how large the obligation which they are to discharge.

In the United States, for example, gold coin and United States notes are legal tender for any amount. Whether the obligation is one of twenty dollars or of several hundreds of thousands of dollars, the creditor is legally bound to accept payment when it is offered in this form. Conversely, the creditor can insist that the debtor should make payment in full legal tender money—although in practice neither of these rights is exercised in the majority of cases, owing to the fact that large obligations can more conveniently be settled by means of bank checks. The element of convenience is also responsible for the fact that certain kinds of common money have been given the legal tender quality only in transactions of less than a fixed amount. No useful purpose would be served at all if a debt amounting to several dollars should be discharged in pennies or small silver coins, and for that reason these forms of money have received limited legal tender only. In the case of small silver coins, the creditor need not accept them when offered in payment of obligations exceeding ten dollars, while the nickel and copper coins are not legal tender for more than twenty-five cents.

Some forms of common money, however, have no legal tender powers whatever. In view of the fact that the bank check—which is not common money at all—is used in settlement of the major part of all the business transactions of this country, it will not surprise us to learn that the Federal Reserve note is the most important single element of the total stock of

common money in the United States, although it has no legal tender powers whatever. In our daily transactions, little attention is in normal times paid to the question of legal tender. We accept all kinds of media of exchange indifferently. But this does not always hold true, for in times of financial stress or national emergency, the existence of this quality in a particular medium of exchange becomes a matter of vital importance. The growth of economic civilization has increased the importance of monetary laws—but it is well to remember that the original money of society was optional, since a general medium of exchange existed long before the community evolved the idea of legal tender.

Moreover, we can go still further and divide common money, which is full legal tender, into two distinct groups—*definitive money* and *convertible money*. Definitive money is that form of money upon which the whole monetary system is based, consisting in the United States at the present time of gold coins. It need not, however, consist of metallic coin; during the war there were many European countries which possessed, as definitive money, notes issued by the governments or the central banks. The only requirement is that definitive money should be that form of medium of exchange into which all other forms are convertible at the will of the holder. It follows from this that convertible money, although it is common money with full legal tender powers, can always be converted into definitive money. Thus the holder of a United States note may exchange it for gold coin at the Treasury or at any Federal Reserve bank. In the majority of cases, convertible money takes the form of a paper currency which is redeemable in gold; but this need not be so. In India, for instance, the gold sovereign is convertible money, which may always be exchanged for silver rupees, the definitive money of the Indian Empire.

Finally, we can divide all common money into *token money* and *full-bodied money*. Some forms of media of exchange

are intrinsically worth as much as the monetary value which they bear. This was obviously true in the case of the primitive ox; and even at the present time, if we should melt gold coins into bullion, we could sell the latter for a sum approximately equal to the monetary value of the coins. On the other hand, there are many media of exchange which have a monetary value greatly in excess of their intrinsic value. The paper contained

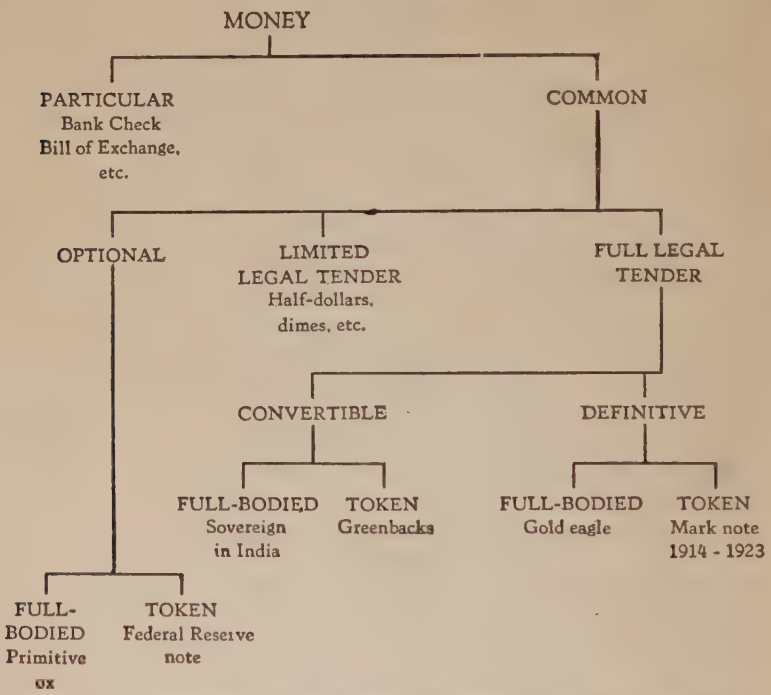

Figure 1. A Classification of the Different Kinds of Money in Use in the United States.
(Adapted from D. H. Robertson, *Money*)

in a $100 bank note is only worth a fraction of a cent; the metal contained in a silver dollar would sell in the bullion market for some sixty cents, and the same is true in greater degree of the subsidiary coinage. Full-bodied money and token money each serve equally as a medium of exchange, although their intrinsic value differs greatly. Indeed, we must

not attach too much importance to intrinsic value even in the case of gold coin, because as we proceed, it will become clear that the value of the Gold Eagle is as dependent upon its monetary use as is the value of a $20 bank note.

In Figure 1, these various forms of medium of exchange are presented graphically in their relationship to one another. Clearly there are many forms of money in current use, differing markedly from one another, but it is equally obvious that they are all interrelated in such a way as to constitute an organic monetary system.

Qualities of a Medium of Exchange.—In view of the fact that there are so many differing kinds of media of exchange in actual use, it is of interest to find out what qualities they have in common which differentiate them from all other commodities. What are the attributes that a commodity must possess if it is to constitute a satisfactory medium of exchange? W. Stanley Jevons listed the following seven attributes many years ago, and, although they were originally intended to apply chiefly to metallic coins, it is apparent that they still hold true in the case of the broader definition of money which we set up in the first chapter.

1. Acceptability or utility
2. Cognizability
3. Divisibility
4. Homogeneity
5. Indestructibility
6. Portability
7. Stability of value

The older requirement of *utility* has today largely given place to the broader one of *acceptability*. During the early stages of the evolution of money, there is no doubt that the precious metals were almost universally chosen as a medium of exchange because of their utility as ornaments and decorations. Even today there are, as is apparent from popular discussion, people

who feel that gold and silver are the only satisfactory media of exchange, because, if the worst comes to the worst, they might be melted down and used for industrial or ornamental purposes. But in the business of everyday life this factor is of little or no importance to the majority of people. When we receive a gold coin we hasten to spend it again, because we have no desire to use it for the purpose of filling the cavities in our teeth. Indeed, gold coin is hardly used at all today, and silver coins are used only for the smaller transactions. It has been found that paper money, whether issued by the government or by the banks, is very much more convenient for all purposes—while in a large number of transactions, between persons who are known to one another, even paper money has been displaced by bank checks and other credit instruments. The quality required of a good medium of exchange is therefore no longer economic utility in the old sense, but general acceptability, so that the recipient is always certain when he receives any particular medium that he can readily pass it on to somebody else in exchange for the commodities which he needs.

Cognizability is highly important in a medium which is to have general currency throughout the community. It must be something which will be readily and easily recognized for what it is by the most ignorant person to whom it is offered. Metallic coins bearing the imprint of the government satisfy this demand in full, so long as they cannot readily be counterfeited, and the same thing may be said of paper money. In regard to bank checks and other credit instruments, the question of cognizability is very largely one, first, of recognizing the validity of the instrument as having been properly executed; and secondly, of recognizing the competence of the individual to create the instrument. It is clear, therefore, that the quality of cognizability is possessed in a very much higher degree by coins and notes than it is by the other forms of media of exchange, and, for this reason, the latter have only a limited circulation and are, as was previously stated, not common but particular money.

The necessity for *divisibility* has exercised a great influence upon the evolution of a general medium of exchange. Scientifically speaking, all things are divisible. We can cut a diamond in two, we can saw a log of wood into several pieces, we can divide a fur coat into as many pieces as we wish. But in all of these cases the aggregate value of the parts will be somewhat less than that of the original article before it was divided. In the case of a medium of exchange, it must be divisible into units which are convenient in size for the various transactions which must be performed, but in all cases the value of the parts must be equal to the value of the whole before subdivision took place. Thus a ten-dollar gold piece can be divided into two parts which are each worth five dollars. Broadly speaking, the value of the parts will be equal to the original value of the whole unit only when they can be joined together again. A diamond, once cut, cannot again be made as it originally was; a fur coat, which is divided into the skins from which it was made, can only be assembled again with a good deal of skill and labor—but in the case of the metals any number of small units can easily be fused together into a single large unit by the process of smelting. Gold and silver therefore possess this quality of divisibility in a high degree. The various forms of paper money and the several types of credit are not in literal truth divisible. But the requirement of divisibility is aimed at providing a medium of exchange in convenient units for all types of transactions. This is easily secured in the case of paper money by the creation of notes in varying denominations (from $1 to $10,000 in the United States), and in the case of credit instruments in general the same result is even more perfectly achieved because a check or a bill of exchange may be drawn for any amount that the drawer wishes to specify.

If the medium of exchange is to be universally acceptable it must be *homogeneous,* i.e., each unit must be absolutely equal in value to every other unit of the same size. If this were not so, it is clear that no commodity would be generally acceptable,

because each individual would need to examine and test carefully the various units that were given to him in exchange for the goods he wished to sell. The need was, however, fully met by the precious metals, since an ounce of pure gold is always the equal in value of any other ounce of pure gold—whereas in the case of precious stones, for instance, two rubies of the same weight may differ greatly in value.

In the case of paper money, a superficial uniformity is obtained by the use of certain standard qualities of paper, a uniform design and style of printing, etc. The same thing may be said of bank checks and, to a lesser extent, of credit instruments in general. With regard to the more fundamental aspect, the homogeneity of value, we must leave the question for detailed discussion in a later chapter, but for the time being we may suggest that in a modern monetary system it is obtained principally by means of the right to convert all other forms of the medium of exchange into that one form which is, for the time being, the standard.

The question of *indestructibility* is largely tied up with the use of money as a store of value which, we noticed, was one of the results of the introduction of a general medium of exchange. If an individual has sold goods or services in exchange for money, and does not desire to spend that money immediately, it is obvious that the medium of exchange must exist in some form which will not deteriorate in value during the period for which it is stored. The tobacco which was used in the early days of Virginia would deteriorate in a comparatively short time; the brick tea of Siberia would not be improved by many handlings; but the precious metals once again are comparatively indestructible, being but little subject to corrosion. Metallic coins are, therefore, to all intents and purposes, indestructible. But in the existing order of society money is used as a store of wealth to a smaller extent than it was in the days before the evolution of an efficient banking system. The requirement

might therefore be interpreted, not so much as a requirement of extreme durability in the medium of exchange itself, as a need for an ample supply at all times of a convenient medium that does not depreciate in value if it is retained for any length of time. Paper money and credit instruments supply this need adequately. They are cheap to create, and, although their life is short, they can easily be replaced. They do not, moreover, tend to decrease in value if they are used as a store of wealth.

The requirement of indestructibility is closely bound up with the need of *stability of value,* since in the case of paper money and credit instruments the two tend to be very nearly identical. It is clear that an individual who receives money in exchange for his produce will desire to be assured that the money which he has received will not depreciate in value before he can spend it again. The lack of this quality was amply demonstrated in Germany during the debacle of 1922–1923, when the value of the medium of exchange fell so rapidly that people became unwilling to accept it at any price. This quality of stability is, however, intimately linked up with the function of money as a standard of value and will be discussed more fully in a later chapter.

Finally, there is the need of *portability.* If the medium of exchange is to facilitate economic transactions, it must be easily carried about from place to place in the necessary quantities. In the early days of Rome bronze money readily satisfied this need, but as the wealth of the community increased and prices rose, it became too burdensome and gave place to silver. Similarly, during the sixteenth and seventeenth centuries in Europe, silver became too cumbersome to serve as a good medium of exchange and gave place to gold in all large transactions. During the last few decades gold itself has given place to paper money, and latterly to checks, because gold, while it is easily portable in amounts adequate for small transactions, becomes inconvenient in amounts of a thousand dollars or more.

Suggestions for Further Reading

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CHAPTER 3

METALLIC AND PAPER MONEY

We have seen how money gradually evolved, and how there are today very many things, of different kinds and with varying qualities, which function as a medium of exchange. But between those early stages in the development of economic life, at which the general medium of exchange first came to be recognized, and the highly complex social organization of today, in which an efficient medium of exchange is so much a part of our daily lives that we have ceased to regard it as interesting enough to occupy our thoughts—between these two epochs there is a great gulf fixed. Naturally the question arises in our minds, how did the medium of exchange come to assume the form in which we know it today, what problems were encountered, and how were they solved? It is the purpose of this chapter to sketch the main features of that development.

The Origin of Coinage.—Although gold and silver were recognized as satisfactory media of exchange at a very early period, because of their value as ornaments and because they satisfied so much better than any other single commodity the various conditions that are essential to a good medium of exchange, it was not until a comparatively late stage in the evolution of society that mankind thought of the increased usefulness which these metals would have in coined form. A *coin is merely an ingot of metal, of which the weight and fineness are certified by the integrity of the designs impressed upon its surface,* and it is immediately apparent that gold coined in the form of eagles and double eagles constitutes a very much

more satisfactory form of medium of exchange than metallic gold in the form of nuggets or gold dust. Whereas in the case of coins we have only to count out the necessary sum, in the case of bullion we should not only have to weigh out the requisite quantity, but should also have to test the purity of the metal, in order to determine the amount of alloy which it contained.

But such a conclusion as that could only be reached on the basis of our present coinage—and it has taken mankind more than two thousand years to reach the present level of technical accuracy in minting. The earliest coins of which we have any evidence were struck in Lydia, during the seventh century B. C. They were very crude things, little ovals of metal which have on the one side a number of parallel lines, and on the other a series of irregular incisions. At a later date we find coins with a definite picture on the obverse side, but it is not until the middle of the fifth century that we find coins with a definite pictorial impression on both sides. Only within the last two centuries has it become possible to cover the whole of both faces with the design, and, by milling the edges, to make the coin a perfect unit from which the metal cannot be extracted without the coin itself showing definite evidence of the fact.

The art of coinage is, therefore, comparatively young, in terms of the economic history of mankind, and only by a slow process of evolution have we come to use metallic coins as a medium of exchange which is measured only in numbers. With the introduction of coinage we find that the positive disadvantages of the new system tended for some time to loom very largely in the popular imagination. In the first place, as soon as the members of a community ceased to weigh and test the ingots of metal which they received in exchange for their goods—as soon, that is, as coins came to be accepted at their face value—a large measure of power, for good or evil, was placed in the hands of the minting authority. The state usually assumed a monopoly of coinage, and it was not long before it

was realized that the monopoly might be made profitable. If a pound was no longer a certain weight of silver bullion, as measured on the scales of the recipient, but a coin which passed current because of the superscription it bore, why not issue coins with the same superscription that contained a smaller quantity of metal? If a coin still passed current as a pound when it contained only two-thirds of a pound of silver, the government could mint more money from a given quantity of bullion, and so increase its revenues, and if we recall the chronic lack of money which characterized most of the medieval rulers of Europe, we shall not be surprised to learn that the device was occasionally resorted to.

It would, however, be inaccurate to suggest that the debasing of the coinage was nothing but a deliberate and barefaced robbery. No doubt the thought of personal profit was a powerful incentive to the governments, who were certainly not the innocent victims of fate, but at the same time there were powerful economic forces at work which tended to produce, of their own accord, a continuous and perceptible depreciation of the coinage.

Coins were originally manufactured from pure gold or silver, which, being rather soft, rendered the coinage subject to a large amount of deterioration from the wear and tear of everyday usage. Nor were the financial experts slow in taking advantage of this fact. If one should clip a small strip from the edge of each coin that passed through one's hands, a goodly supply of bullion might in time be accumulated; alternatively, for those who found such a task too arduous, the same result could be achieved by putting several coins together in a bag and shaking them violently. This pleasant little task seemed unusually profitable, because the coins still circulated at their face value after the clipping or "sweating" had been carried out, and naturally there were very many people who were willing to practice so lucrative a diversion during their leisure hours. Obviously, there would be a rapid depreciation in the

metallic content of the coinage as a whole, and coins of the same nominal value would differ substantially from one another in weight. Even without the cooperation of the public there would have been a considerable diversity of weight between one coin and another because of the crudeness of the early minting processes.

Gresham's Law.—Now the value of the coinage tends to be fixed on the basis of the coin with the lowest metallic content, rather than on that with the highest. This fact was stated by Sir Thomas Gresham in the form of a proposition which still bears his name. *"If coins of the same metal but of varying weight and quality, circulate together at the same nominal value, the worse coins will tend to drive out the better, but the better will never drive out the worse."* Although this fact was not clearly recognized until the sixteenth century, it exercised a great effect upon the early coinage systems. Those coins which were of high metallic content would be hoarded, or melted down to be used as bullion in making payments to persons in communities outside of the one within which the coin circulated. The actual medium of exchange would, therefore, consist of those coins which had come from the mint somewhat light in weight, and of the coins which had suffered substantial depreciation, either through normal wear and tear, or through the practices of clipping and sweating. If the state should issue new coins of full weight and fineness, it would rapidly find that it had not in any way raised the general standard of the currency because the new coins would soon pass out of circulation through export or hoarding. It was therefore natural, that with each successive issue of coinage, the bullion content of the individual coins should be reduced to an amount equal to the average bullion content of the old coins still in circulation. The fact that the state reaped a financial benefit from each debasement naturally made the adoption of this device highly palatable to it, although profit was not the sole motive.

To the mercantile world, however, the process was distinctly unsatisfactory, because of the constantly changing value of bullion in terms of the coinage. As the metallic value of the coins continued to decrease, it was obvious that an ounce of gold could be minted into more and more coins; and, conversely, that the value of an ounce of gold expressed in terms of the coinage would rise. But the problem of the merchant who traded on a large scale and in many countries was rendered even more complicated by the large variety of coins with which he came into contact. The political subdivision of Europe during the Middle Ages does not require any description here, but when we remember that each political unit—kingdom, duchy, or electorate—had its own mint, and issued its own coin, we can realize that the task of the merchant was no easy one. And when we add to this the fact that each of these several coinages was depreciating at a different rate, we may sympathize with the merchant who felt that the introduction of coinage was not an unmixed blessing.

The problem was one of grave importance, since the continued use of coins depended upon a solution being found. Through the gradual development of the technique of minting, and a better understanding of monetary science, it has become possible to maintain the value of the coinage at a parity with the metal from which the coins are made. A dollar contains approximately one-twentieth of an ounce of pure gold. This ratio has existed for several decades and there is no reason why the operation of Gresham's Law should cause any departure from it.

This parity is maintained by the *right of free coinage and the right to melt coins into bullion.* On the one hand, the value of the coins can never rise above the value of the gold contained in them, because if such a tendency should develop, the right of free coinage authorizes any person to bring unlimited quantities of gold to the mint and demand an equal quantity of gold coin in exchange. In the United States and England, the

government charges nothing for its service in coining the metal, so that the coinage is not only free, in the sense of unlimited, but is also *gratuitous*. In several countries, however, although the government grants the right of free coinage, it levies a charge for its services in the matter. This charge is known as *brassage*, where it is just sufficient to cover the actual cost of coining the metal, and as *seigneurage* when it is sufficiently high to provide the government with a profit over and above the cost of coinage. It is possible therefore that, in those countries in which the coinage is not gratuitous, the value of the coins as such might rise above the value of their bullion content by an amount equal to the amount of the seigneurage, but, as this is today comparatively small in all countries, the exception is an unimportant one.

On the other hand, the value of the coins as such cannot fall below their value as metal, because, if there were any tendency for this to happen, the coins could be melted down and used as bullion.

But, it may be asked, supposing the bullion content of the coins was below the nominal value, by reason either of abrasion through wear and tear or of some extraction of the metal, would it not then be possible for the value of the coins to fall below the value of their nominal bullion content? This contingency has also been obviated by the monetary laws of the United States. In the first place, the development of technical skill in the field of minting has permitted the manufacture of coins of almost identical weight and fineness. Gold coin in the United States must be nine-tenths fine, and although the law allows a *tolerance in minting* of one-thousandth (i.e., the metal may legally vary between .899 and .901 in fineness), in practice no coin is issued which is of a fineness of less than .8997 or more than .9003. In the case of the weight of the coin it is similarly provided that, in the case of the double eagle and the eagle, the tolerance is one-half grain; and for smaller coins one-quarter grain. In practice therefore, coins are almost

uniform in metallic content when they are issued from the mint.

Nor is any substantial deterioration possible while they are in circulation. The minting of the coins is now so well done that any decrease in the bullion content of the coin would be apparent from visual examination, and lest this should not suffice, the law specifies that a gold coin may not suffer a greater loss by abrasion than ½ of 1% in twenty years, or 1/40 of 1% each year. This is known as the *tolerance for abrasion in circulation,* and if gold coin should fall below the minimum weight set by this allowance, it will cease to circulate as money, and will be received only at its bullion value. The parity of the gold coin with gold bullion is therefore satisfactorily established at the present time.

From Table I it is possible to visualize the entire present

TABLE I. WEIGHT AND COMPOSITION OF THE VARIOUS COINS CURRENT IN THE UNITED STATES

Denomination	Precious Metal Content (Grains)	Alloy Content (Grains)	Standard Weight (Grains)
GOLD			
One dollar*	23.22	2.58	25.80
Quarter-eagle	58.05	6.45	64.50
Half-eagle	116.10	12.90	129.00
Eagle ($10.00)	232.20	25.80	258.00
Double eagle	464.40	51.60	516.00
SILVER			
One dollar	371.25	41.25	412.50
Half-dollar	173.61	19.29	192.90
Quarter-dollar	86.805	9.645	96.45
Dime	34.722	3.858	38.58
MINOR COINS			
Five cents	(75% copper & 25% nickel)		77.16
One cent	(95% copper & 5% tin & zinc)		48.00

* No longer in circulation.

coinage system of the United States. It gives the details regarding each of the coins.

Subsidiary Coinage.—Up to this point we have concerned ourselves with the problems encountered in dealing with coins of one metal, and of substantially similar denominations. But we have already seen that in practice a medium of exchange must exist in various denominations, which are individually suitable for different kinds of transactions. A coin which served satisfactorily in the purchase of a loaf of bread would prove entirely too cumbersome if it were used in quantities large enough to purchase a thousand-acre farm. The necessity for coins of various denominations was apparent at a very early date, but the attempt to meet that need gave rise to problems even more acute than those we have already studied.

The first, and apparently easiest, way of solving the problem was to manufacture coins of the same metal, but of varying weights. The smaller coins tended, however, to suffer more heavily from the abrasion received in circulation, since they passed from hand to hand more frequently than did the large coins, and, in most cases, there was also a larger proportional variation in their original weight when they came from the mint. On the whole, therefore, the subsidiary coins tended to depreciate much more rapidly than the larger coins, and, in terms of bullion content, the latter would be worth more than their nominal equivalent in smaller coins. As a natural result of this process, Gresham's Law tended to come into operation and drive the larger coins out of circulation, unless the extent of the depreciation in the bullion content of the smaller coins was recognized, and they were made to pass current at a continually falling proportion of the larger coin! This was thoroughly unsatisfactory, since it set up three independent media of exchange—bullion, large coins, and small coins—each of which was continually changing in value with regard to the other two.

An attempt was made to get around this difficulty by minting coins of approximately equal size, but of different metals. Thus the medium of exchange for large transactions would be in the form of gold coins, while for the smaller everyday transactions silver coins would be used. This would have solved the problem, were it not for the fact that the relative value of gold and silver bullion in the market tended to change from time to time. Whenever such a change occurred it became necessary to revalue the silver coins in terms of the gold coins. Nor was it possible to remove this inconvenience by means of governmental edict, for to state Gresham's Law in another form, *"whenever coins of two metals are in circulation, with their relative value fixed at a ratio other than that which really exists between the two metals on the market, the overvalued metal will tend to drive out the undervalued."*

In 1792, for instance, when the first coinage law of the United States was passed by Congress, provision was made for gold coins of one dollar and over, and for silver coins in denominations of one dollar and less. To establish definitely the relative value of all of the coins in current usage, the legal ratio between the two metals was fixed at 15:1, i.e., the weights of the various silver coins were based upon the assumption that one ounce of gold was worth precisely fifteen ounces of silver. As a matter of fact the ratio between the two metals in the bullion market was approximately 15.3 to 1, and it tended to rise rather than fall. A given quantity of gold was thus worth 15.3 times its own weight of silver in the bullion market, whereas at the mint it was only worth 15 times its weight of silver, and as a result no gold was taken to the mint, and the country suffered from an increasing scarcity of a medium of exchange in denominations large enough for wholesale transactions. In 1834 the position was reversed. The mint ratio was fixed at a level above the market ratio, and the silver coins tended to disappear from circulation, creating a

dearth of media of exchange in the denominations useful for everyday transactions.

Up till the last century, therefore, while there had undoubtedly existed in most countries a medium of exchange in the various denominations suited to both small and large-scale transactions, the state had not solved the problem of maintaining all of these various coins at a parity with one another. Now, unless this problem were solved, no monetary system could exist, for it would be absurd to talk of a monetary *system* in which the value of the various coins was not maintained at a constant level in regard to one another. A beginning had been made when means were found to maintain the standard coin at a parity with the metal from which it was minted, and, following upon this step, the regulation of the subsidiary coinage was attempted on a scientific basis. The bullion content of the smaller coins was reduced to a point at which they were worth substantially less as metal than as coins, thus ending their existence as full-bodied money and making mere tokens of them. Lest they should become redundant, the total volume of subsidiary coin in circulation was carefully regulated, so that at all times there should be enough to meet the needs of business—and to provide for their passing out of circulation when the needs of business should temporarily decrease, subsidiary coins were made convertible into gold coin at their face value. By this provision of convertibility the smaller coins were definitely tied to the standard coin in value. No variation between the two was possible because at any time gold coin could be exchanged for subsidiary money, or conversely the latter could be exchanged for gold coin. Finally, in order to avoid all possibility of the operation of Gresham's Law, and also to prevent its being used as a medium of exchange in inconveniently large amounts, the legal tender power of the subsidiary coinage was limited.

Metallic coins are thus today almost perfect as a medium of exchange, indeed so perfect have they become that we have

ceased to pay any attention to such matters as weight and fineness and concern ourselves only with their number. But, long before this perfect homogeneity had been attained, mankind had realized that metallic coins were not a perfect medium of exchange for large-scale transactions, and during the last two centuries there has been a growing preference on the part of the general public for some medium which is more convenient and more easily carried around. Paper money has, therefore, tended to replace coin in all but the smallest classes of transactions.

Paper Money.—Paper money in essence is generally a promise to pay coin to the holder of the paper at any time at which it may be demanded. In this form we can find evidences of paper money from the earliest days of human history, for it had become apparent to mankind that it was more convenient to carry a piece of paper than a bag of gold or silver. The earlier forms consist of what we might call warehouse receipts —specific acknowledgments that a banker had received for safe-keeping a certain sum of gold or silver, and a promise that he would return the metal to the holder of the receipts whenever he was requested to do so.

Even today the notes issued by the Bank of England are substantially of this nature, and the gold certificates and silver certificates issued by the Government of the United States are literally receipts for specific amounts of coin deposited with the Treasury. The origin of paper money is thus intimately related to the demand for a medium of exchange which should be more portable and more convenient in use than metallic coin.

It soon became apparent, however, to both the banks and the government that the demands for actual coin were rather infrequent, so that notes might safely be issued in excess of the reserves of coin which were held against them. The notes therefore tended to become credit money, and the popularity which they had among the general population was also felt by

TABLE II. CIRCULATION STATEMENT OF MONEY IN THE UNITED STATES, JUNE 30, 1928

Kind of Money	Total Amount	Total Money Held in Treasury	Money Outside of Treasury			
			Total	Held by Federal Reserve Banks and Agents	In Circulation	
					Amount	Per Capita
Gold coin and bullion	$4,109,162,895	$3,215,615,889	$ 893,547,006	$ 516,519,318	$ 377,027,688	$3.19
Gold certificates	(1,513,730,839)		1,513,730,839	494,582,280	1,019,148,559	8.61
Standard silver dollars	539,961,701	480,258,232	59,703,469	13,481,924	46,221,545	.39
Silver certificates	471,726,701		471,726,701	87,150,089	384,576,612	3.25
Treasury notes of 1890	(1,303,600)		1,303,600		1,303,600	.01
Subsidiary silver	299,010,231	2,691,643	296,318,588	18,143,494	278,175,094	2.35
Minor coin	116,688,811	2,845,028	113,843,783	2,782,752	111,061,031	.94
United States notes	346,681,016	3,021,104	343,659,912	45,221,560	298,438,352	2.52
Federal Reserve notes	2,002,810,830	1,590,525	2,001,220,305	374,787,433	1,626,432,872	13.74
Federal Reserve Bank notes	4,154,618	101,210	4,053,408	24,424	4,028,984	.03
National Bank Notes	699,620,652	19,526,096	680,094,556	29,882,636	650,211,920	5.49
Total, June 30, 1928	8,188,090,754	3,725,649,727	6,379,202,167	1,582,575,910	4,796,626,257	40.52
COMPARATIVE TOTALS						
October 31, 1920	8,476,904,551	2,407,741,319	6,766,017,458	1,005,063,805	5,760,953,653	53.60
March 31, 1917	5,395,314,227	2,944,575,690	5,135,538,622	953,321,522	4,182,217,100	40.32
June 30, 1914	3,796,456,764	1,845,575,888	3,458,059,755		3,458,059,755	34.92
January 1, 1879	1,007,084,483	212,420,402	816,266,721		816,266,721	16.92

the government, which had thus found itself endowed with the power to issue a medium of exchange highly convenient to itself because of its cheapness. That the use of paper money was not free from the possibility of rather sad results is amply demonstrated by historical experience, but this subject concerns the standard of value rather than the medium of exchange and may therefore be postponed for discussion at a later time.

Omitting then the case of fiat money, paper money may be divided into two classes. First we have *representative paper money*, which includes all forms of paper money that are simple warehouse receipts for coin, and secondly *convertible paper money*, which, although it is not fully backed by an equal amount of coin, is none the less convertible into coin by any individual who wishes to make the exchange. In both of these cases it is apparent that the use of paper money, as a medium of exchange, is due entirely to a recognition by the general public of its convenience for that purpose. Nor does the introduction of paper money tend in any way to destroy the harmony of the monetary system because the possibility of conversion into actual coin (or of exchanging the coin for paper money) will prevent any divergence in value between the two kinds of medium of exchange.

We must note, however, that the introduction of convertible paper money has introduced an entirely new type of medium of exchange. Whereas in the case of metallic coin and even of representative paper money, the medium of exchange was a tangible commodity possessing economic utility, we now have a medium which is based on credit. It is true that the credit is that of the government, and that the paper money is issued in a form which is widely recognized and possesses that universal acceptability which a general medium of exchange needs. But the recognition of the fact that a written promise to pay, a credit instrument in fact, will serve as a medium of exchange, as efficiently as, perhaps even more effi-

ciently than, metallic coin has opened the way for the development of credit instruments in general to serve the same purpose.

The Money of the United States.—All of these forms of common money are in existence in the United States at the present time. Gold coin, subsidiary coin, and paper money issued both by banks and by the government circulate side by side—to say nothing of the tremendous volume of particular money, especially in the form of checks, which is used in everyday transactions. While it is impossible at this time to include the latter, the figures offered in Table II give a clear indication of the relative importance of the various forms of common money at the present time.

Suggestions for Further Reading

Bradford, F. A. Money. Longmans, Green & Co., 1928, Chs. II, VI.
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CHAPTER 4

THE STANDARD OF VALUE

The various forms of media of exchange which we have discussed have at various times served to facilitate economic intercourse. But, at each exchange, money is also called upon to act as a standard of value, for a unit by which we can measure value is as important as the ton by which we measure weight or the yard by which we measure length. These two functions of money differ widely from each other, and it not infrequently happens that different kinds of money are used concurrently, the one to measure value and the others to serve as a medium of exchange. In the early Mediterranean civilizations the ox served as a standard of value long after it had given way to the precious metals as a medium of exchange; in England at the present time professional fees are often reckoned in guineas, although no such unit is found in the monetary system; while even in the United States the standard of value is the gold dollar, consisting of 25.8 grains of gold nine-tenths fine, despite the fact that such a coin is no longer minted, and that the media of exchange in actual use consist of many kinds of coins and notes.

The Nature of the Standard of Value.—Whereas our medium of exchange must be a physical object which can be passed from hand to hand, it is apparent that the standard of value may be an intangible unit—an ideal concept in terms of which the values of all commodities are measured. But the standard of value will be a different thing from the other standards in actual use. Length or weight are physical proper-

ties that can be measured by means of physical apparatus, so that the yard and the pound are definitely established and invariable units. Value is not so easily determined. Like beauty it exists to some extent in the eye of the beholder, and must be measured by psychological rather than physical processes. We cannot, therefore, arrive at any absolute values, but must content ourselves with a relative statement by saying that a given horse is worth $2,000.

The standard of value in this sense—or as it is often called, the monetary standard—is the foundation upon which the whole economic organization of society is built. All of the media of exchange in actual use are given a value stated in terms of dollars; all prices are stated in the same unit, and it is in terms of the monetary standard that payments are levied and contracts entered into. The other standards of measurement are of great importance, but the field of operation of each of them is limited to a specific group of transactions. If I am buying coal the standard of weight enters into the contract; a purchase of land involves the standard of length; and a purchase of milk calls into use the standard of liquid measurement—but in *all* of these transactions the contract involves the standard of value. There is scarcely a single economic act, involving two or more persons, that is not based in some degree upon the monetary standard.

While there are several attributes necessary to a good medium of exchange, the one quality of supreme importance in the case of the monetary standard is *stability*. The actual size of the unit is of little importance. A franc will serve as well as a dollar which is 25 times as valuable, or as a pound which is equivalent to nearly five dollars. But, whatever the standard is, it should be constant, for no man will be willing to lend ten dollars today unless he believes that the ten dollars which he will receive a month from now will represent control over an equivalent amount of the real wealth of the community.

How the Value of Money Is Measured.—If we are to gain any clear ideas of the value of money, it is necessary that we should be able to measure it. At first sight this problem presents some difficulty because the monetary standard is itself the unit in terms of which we measure the value of all commodities. We are accustomed to state the value of a hat as ten dollars, or of a ship as one million pounds sterling. How then can we measure the value of the dollar itself?

The problem loses some of its complexity if we remember that *value* and *price* are not synonymous terms to the economist, although in the language of business they are often confused. Value is measured by the quantity of other goods for which a given commodity will exchange. Thus the value of a horse may be equal to one hundred bushels of wheat, or to half an acre of land. But it would be cumbersome to be compelled to express the value of a given article in terms of innumerable other articles, and so we generally use the price of an article as a statement of its value, for price is nothing but the value of a given commodity stated in terms of the monetary standard.

The value of money, therefore, is measured in terms of the commodities for which it may be exchanged. If I can purchase a hat for ten dollars, and a luncheon for two dollars, it is obvious that the value of a dollar is equivalent to one-tenth of a hat or one-half of a luncheon—and the same holds true of all the other commodities which I may purchase. It may happen, however, that when I go down to purchase a new hat I find that the price is twenty dollars for one of the same kind and quality that previously cost me ten. Is this due to an increase in the value of the hat, or to a decrease in the value of each of my dollars? If the prices of other commodities remain unchanged I shall naturally assume that the value of the hat has risen, but if most prices have risen it will be apparent that my dollars have fallen in value, when measured in terms of all those commodities of which the price has risen.

To determine the stability of the monetary standard, however, we need something more definite than this. No clear idea of the extent of a change in the value of the dollar can be gained from the statement that its value has decreased in terms of hats, automobiles, and theatre tickets, but has risen in terms of books, cigars, and real estate. If we are to measure the value of the monetary standard in terms of *all* the commodities within the community for which it is exchanged, it is necessary that we should compare it with the *average price* of all those commodities, or to use another term, with the *general level of prices.* Any increase in the general level of prices will show that the value of the monetary standard has decreased—because on an average the dollar will be exchanged for a smaller volume of commodities. If the value of the monetary unit is stable the general level of prices will neither increase nor decrease.

Index Numbers.—We may as well admit at the outset that nobody has discovered a method by which we can measure the general level of prices as easily, and accurately, as we can measure the length of a given piece of steel at a fixed temperature. But, by the use of a mathematical device known as an *index number,* we can arrive at a result which is sufficiently close to the truth to serve our purpose. Now an index number is nothing more than an average of numerous individual prices at each of two or more periods of time. To take a very simple example, let us suppose that in a given community there are only three commodities bought or sold on the market, bread which sells at 15 cents a loaf, milk selling at 10 cents a pint, and beef at 30 cents a pound. A month later no change has taken place in the kinds of commodities offered for sale, but their respective prices have changed to 20 cents, 15 cents, and 25 cents. From this information it is not easy to ascertain directly whether the general level of prices has risen or fallen, so we construct an index number as follows:

	Period A	Period B
Bread (loaf)	15 cents	20 cents
Milk (pint)	10 "	15 "
Beef (pound)	30 "	25 "
	55 cents = 100%	60 cents = 109.9%

Our problem has been greatly simplified, because we have gained the information that the general level of prices has risen by approximately 10%—or alternatively that the value of money has fallen by a corresponding amount—when compared with the base period (period A in the above table).

The objection may be raised, however, that such an average, which attaches equal importance to every commodity, is susceptible to considerable error because of the fact that, in actual life, we purchase different amounts of different commodities, so that an increase in the price of quinine is of much less importance than an increase in the price of bread, and the change in the value of money due to the former should be substantially less than that caused by the latter. This criticism may be met by weighting our index number, that is, by attaching to each item a mathematical importance which is equivalent to the importance which it actually has in the market place. Let us suppose that, during period A, there were sold in our hypothetical community 2,000 loaves of bread, 5,000 pints of milk, and 1,000 pounds of beef; while in period B there was a change in these figures, due to a variety of causes, so that the sales of beef increased to 1,200 pounds and those of bread and milk fell respectively to 1,750 pints and 4,000 loaves. Making this correction in our index number, we should obtain the following result:

	Period A	Period B
Bread	15 cents × 2,000 = 30,000	20 cents × 1,750 = 35,000
Milk	10 " × 5,000 = 50,000	15 " × 4,000 = 60,000
Beef	30 " × 1,000 = 30,000	25 " × 1,200 = 30,000
	110,000 = 100%	125,000 = 114%

We have now obtained an even more accurate indication of the change in the general price level, which was some 14% higher during the second period than it had been during the base period.

It may be contended that in a hypothetical community such a calculation is easy, but that in the actual world of today so many commodities are bought and sold that it would be absolutely impossible to include all of them, while the prices of each commodity differ so much from one shop to another that the observer would scarcely know which price to take. The existence of the difficulty is obvious, but the statistician gets around it by including in his index number a selection of those commodities which he regards as typical of the thing which he wishes to measure. In this, as in all of the problems connected with index numbers, it is necessary to begin with a clear idea of the purpose for which the index is being calculated. If an index of the cost of living is required, the statistician must select those things which are customarily bought by the average family, and must enter against them the retail prices at which they are sold; while, to construct an index of wholesale prices, he will select the wholesale prices of those commodities which are of wide usage and substantial importance. For this reason we must find out what an index number sets out to measure before we can make any use of it. The number of commodities included varies, in the case of the numerous published index numbers, from a few dozen to several thousands, but the variation is unimportant for most purposes because, if the commodities are carefully selected, an index number constructed on the basis of a few items will show results that are very similar to other indexes which include hundreds or thousands of commodities.

A word of caution must also be offered with reference to two other matters regarding index numbers. In the first place, the base period, to which all the other periods are related by means of percentages, should be one which is as little character-

ized by extreme fluctuations as possible. The base period should not be the year of highest prices or that of the lowest, nor should it be a year of war or famine. It should be a year that is as nearly normal as any single year can be, or better still, it should be an average of several years. In the second place, it is neces-

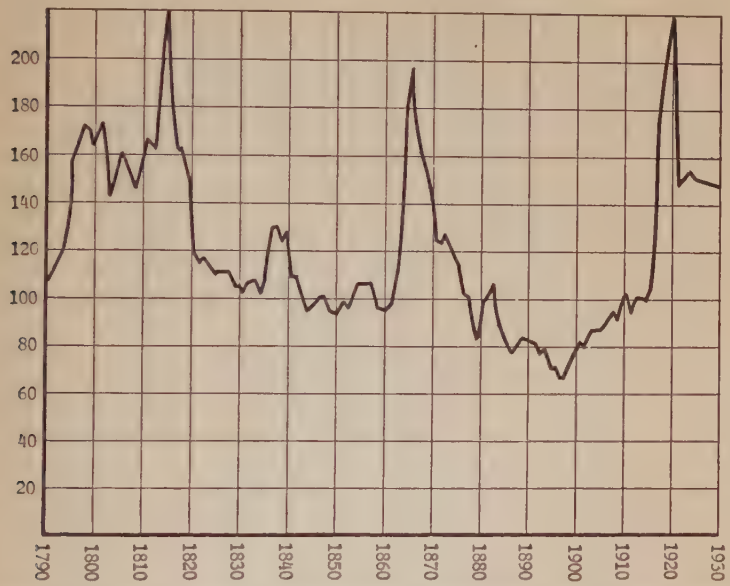

Figure 2. Index Numbers of Wholesale Prices in the U. S., 1791–1930
(Adapted from J. P. Young, *European Currency and Finance*)

sary to pay close attention to the method by which the index number was calculated. This is not the place for a mathematical discussion of the numerous mathematical formulas which offer themselves. The field has been very carefully studied by Professor Fisher,[1] and, as a result of that study, he has pointed out that the accuracy of the results is largely governed by the method used for the calculation of the index number. In the majority of cases this is a problem which

[1] Irving Fisher, *The Making of Index Numbers.*

concerns chiefly the statistician who wishes to construct a new index, but in order to use such an index intelligently it is wise to pay some attention to the subject, and it is of interest to notice that the geometric average and the aggregative index (which we used in our example) are regarded as the most satisfactory for all purposes.

A study of the many published index numbers of wholesale prices, or general prices, offers ample evidence of the fact that the value of money is not stable, but is subject to serious fluctuations. Nor are these fluctuations unimportant either in nature or direction, for we find that, in addition to the short-term variations in the value of money, we can observe long swings either upward or downward, which continue for several years at a stretch. From Figure 2 it can be seen that wholesale prices in the United States rose steadily from 1790 to 1814; fell from that date until 1859 (with the exception of a sharp increase in the thirties); rose from 1859 to another peak in 1865; after which they fell steadily until 1896. Finally there was another steady rise which culminated in 1920. The three peaks in the curve are at periods when the United States was not on the gold standard, or had just returned to the gold standard, but, even if we take the world price level in terms of gold, we find a similar picture. Looking only at the period since 1850 we find that the world price level measured in terms of gold coinage rose steadily until 1873, fell from that date until 1895, and experienced a substantial and fairly steady increase from that time up to the outbreak of the war. It is clear that the monetary standard has not attained that stability of value which is so much to be desired, and it is therefore necessary to ascertain the causes for this instability.

The Value of Money and the Quantity Theory.—The value of money, like the value of any other commodity, is determined by the interaction of the forces of supply and demand. But the problem differs somewhat from that of the

determination of the value of any other commodity because money is desired, not in order that it may be consumed, but in order that it may be spent. The demand for money is therefore fixed by the volume of transactions for which it must serve as a medium of exchange—the payment of wages, the purchase of commodities and services, etc. But that demand is insatiable under normal conditions, for no matter what the volume of transactions may be, whether it be large or small, the total sum of money available will always be called into use to perform them. As a well-known American economist[2] has said, "The desired amount of money utility will always be in existence, for it is created by the need for it. If the supply of money is exactly one million dollars, the need for value in a form immediately exchangeable will give to that million dollars a purchasing power sufficient to render it capable of transacting the business of the community." Expressing the idea in economic terms, it is suggested that, no matter how great or how small the supply of money may be, the demand for it will always be unity.

On the side of supply, money is also different from the other commodities in that the volume of it which is available bears no relationship whatever to the cost of production of the various kinds of money which are in use. In the case of gold coin it might well be contended that the supply of metallic gold is dependent upon the cost of production—but, as we have already seen, the term "money" includes, in addition to gold coin, a fluctuating amount of silver coin, government notes, bank notes, bank checks, and other credit instruments. The cost of production of these various forms of money is to all intents and purposes negligible—so that the available supply of money is, in a large measure, dependent upon the will of those persons or public bodies which create the media of exchange in actual use.

Because of this situation, economists and students of

[2] J. F. Johnson, *Money and Currency*, p. 18.

finance came to regard the supply of money as the sole factor which determined its value, paying little or no attention to the question of the demand for money. John Stuart Mill stated the idea in cautious form many years ago, pointing out that, "The amount of goods and transactions being the same, the value of money is inversely as its quantity multiplied by what is called the rapidity of circulation." Stated in this form the quantity theory of money is inviolable, because it is obvious. The quantity of money in the community (let us call it M), multiplied by the average number of times that each piece of money is used during a given period (let us call this V), is obviously equal to the total number of goods sold during the period (Q), multiplied by the average price paid for these goods (P). In other words, the total quantity of money given in exchange for all the goods purchased is always equal to the aggregate price of those goods, or stated in symbols:

$$M \times V = P \times Q \text{ or } MV = PQ$$

Now it is obvious that, if the velocity of circulation (V) and the quantity of goods sold (Q) do not change, any change in the quantity of money (M) must be reflected by an equal change in the average price of the goods sold (P), since all of the money is exchanged for all of the goods. But it would be equally true that, if the quantity of money and the velocity of circulation remained constant, a change in the quantity of goods would be reflected by an inverse change in the price at which they were sold. Such an obvious statement could not be controverted, but neither will it help us very much in our search for the causes of changes in the value of money.

Professor Fisher's Statement of the Quantity Theory.— The outstanding American exponent[3] of the quantity theory has not, however, been content with this platitudinous statement of the problem. As a basis for his formulation of the

[3] Irving Fisher, *Purchasing Power of Money.*

theory, he has stated the equation of exchange in a somewhat different form to the simple one used above, contending that:

Where M = the quantity of coin and paper money in circulation;
M' = the quantity of bank credit against which checks may be drawn;
V = the velocity of circulation of M;
V' = the velocity of circulation of M';
P = the general level of prices; and
T = the total quantity of goods and services exchanged for money during the period, multiplied by the number of times they changed hands,

Then $MV + M'V' = PT$

But, since our chief concern is to measure the extent of changes in the value of money, i.e., the general price level, the equation can more conveniently be stated:

$$P = \frac{MV + M'V'}{T}$$

This *"equation of exchange"* is indubitably correct, and is no more open to criticism than was its simpler predecessor. In its complete form it does not shed much light upon the causes for the changes in the value of money—but, according to Professor Fisher's analysis, we may, in a static order of society, ignore some of the factors included in it. The volume of credit (M') is held to bear a more or less definite proportion to the volume of money in the narrower sense (M), because of the fact that people in general habitually preserve a fairly steady ratio between the amount of cash on hand and the size of their bank accounts, while the bankers themselves are equally careful to maintain a steady ratio between the volume of their cash reserves and the aggregate amount of their deposit liabilities. We may, therefore, ignore the volume of credit as an independent factor, because it will always vary in direct proportion to the changes in the quantity of coin and paper money.

The velocities of circulation of coin and paper money (V), and of credit (V'), are admitted to change from time to time, and the same applies to the total volume of commodity transactions (T), but, because the changes in these three factors are assumed to be independent of changes in the quantity of money (M), Professor Fisher disregards them as of negligible importance, and states the quantity theory in the specific form of a relationship between the quantity of coin and paper money and the general price level. "We may now restate," he says, "in what causal sense the quantity theory is true. It is true in the sense that *one of the normal effects of an increase in the quantity of money (i.e., coin and paper money) is an exactly proportional increase in the general level of prices.*"[4]

Objections to This Form of the Quantity Theory.—Naturally this brief summary does far less than justice to Professor Fisher's careful study of the whole problem of the value of money, but the above quotation may be said to summarize his final conclusion on the subject, and to represent an accepted statement of the quantity theory of money in its narrowest and most mechanistic form. So long as society is not in a period of transition, the value of money as measured by the general level of prices will be determined directly by the quantity of coin and paper money in circulation.

In this rigid form the quantity theory is open to serious criticism. The formulation is, in the first place, intended to apply only to non-transitional periods—a hypothetical condition which is in distinct contrast to the dynamic conditions of modern economic life. Transition has been the dominant characteristic of our business economy during the last century; transition from active seasons to dull seasons or from a period of prosperity to one of depression; to say nothing of the growth of economic activity which continues steadily from decade to decade. It has indeed been contended that the "normal state of

[4] *Op. cit.*, p. 157.

business is a state of change,"[5] and a theory which is designed for a static order of society must, therefore, prove inadequate to solve the problems connected with the value of money.

Nor will it be admitted that the volume of credit bears a constant relationship to the volume of coin and paper money, excepting during short periods; and it is questionable whether the equation of exchange is of any value at all over very short periods, because of the fact that the purchase of goods is not contemporaneous with the making of payments for them in the modern world of business.[5] If we should take a longer period, say a year, very marked variations would be found to occur in the ratio of credit to coin and paper money, since the volume of credit is found to expand and contract very much more readily than the volume of money in the sense in which Professor Fisher uses that term. Moreover, if we should include a period of years in our survey, it is apparent that there has been a continuing decrease in the quantity of coin and paper money as compared to the volume of credit. If we are to obtain any satisfactory idea of the influence of the quantity of money upon the general price level, there seems no valid reason for differentiating between M and M'. A gold coin, a silver coin, a bank note or a check—each serves equally as a medium of exchange. When we purchase commodities we use that form of medium which is most convenient for our purpose, and no other criterion than that of convenience will influence our choice in normal times. For this reason there appears no certainty that we can establish any definite ratio between the quantities of the various kinds of media of exchange that are in actual circulation, and the demand of convenience is that we should lump them all together, and study only the total quantity of money in the sense in which we defined that term in the first chapter.

The third major objection to the classical formulation of

[5] See W. C. Mitchell, *Business Cycles, the Problem and its Setting*, especially pp. 128–139.

the quantity theory is concerned with the velocity of circulation of credit, and of coin and paper money (V and V'). Velocity of circulation is held to be independent of changes in the quantity of money in normal times, and this independence is a vital factor in the classical formulation. Now Professor Fisher defines the velocity of circulation as the result obtained by dividing the total sum of money spent within the community during a given period, by the average stock of money held by the inhabitants of the community during that period. This quotient is, however, much less important than the size of the stock of money which is held.

Modern Formulations of the Quantity Theory.—There has been no lack of discussion of the quantity theory by American writers, many of whom have presented formulations differing slightly from that given above, while others have gone to the extreme of flatly denying that the theory has any validity whatever. On the whole, however, economic opinion in the United States has tended to hold a version of the theory substantially similar to that of Professor Fisher, and for a complete restatement of the theory in a satisfactory and convenient form, we must turn to the European writers who have been forced by the economic changes of the last two decades to reconstruct their exposition of the principles of monetary science.

In the first place, it is necessary to realize that the individual becomes aware of any variations in the quantity of money through changes in the income which he receives. Discussions of the aggregate volume of money mean little to the man in the street, but he is profoundly affected if his weekly wages should rise from $50 to $70. But the individual does not immediately spend all of the money he receives, and at any moment of time he will have on hand an "unspent margin," which is equal to the amount of his income less the amount that he has spent to date. If we now broaden our field of

vision to include all of the individuals in the community, the same thing will hold true: there will be an "unspent margin" equivalent to the difference between the aggregate of all the incomes received by the members of the community and the aggregate amount of their expenditures. "The wealth value of the monetary unit is inversely proportional to the size of this *unspent margin of the community.*"[6]

A slight variation of the same idea is presented by Professor Cannan,[7] who suggests that changes in the value of money will be proportional to changes in the willingness of people to hold *stocks of money*. In both cases primary importance attaches to the fact that people normally hold a stock of money in the same way that the housewife keeps on hand a stock of potatoes or of other domestic articles. The size of these individual stocks of money will naturally vary considerably between one individual and another, being affected, in the first place, by the intervals of time that elapse between the periodic receipts of income, and, in the second place, by the habits of the individual. The stock held by a laborer who receives his wages every week and spends the whole amount before the next pay-day will be very much smaller than that of an individual whose income is derived from an annuity which is paid in quarterly instalments, and who is, therefore, compelled to spread each instalment of that income over the three months which must elapse before another instalment is due. Again, the stock of money of a frugal individual, who pays cash for all that he buys, and spreads his purchases over the whole income period, will tend to be larger than that of an individual who receives the same-sized income but expends it immediately in payment of obligations which had been incurred previous to the receipt of that income payment. These variations in the individual stocks of money are not, however, of primary importance, for it is the aggregate amount of all the

[6] R. G. Hawtrey, *Currency and Credit* (3rd ed.), p. 34.
[7] E. Cannan, *An Economist's Protest*, pp. 370–391; *Money: Its Connection with Rising and Falling Prices.*

individual stocks—the unspent margin of the community—which exercises an influence upon the general price level.

The desire of people to hold stocks of money is not, however, a constant factor. It may change from one time to another in the case of each person. Thus a man who is going to a strange town on holiday, will usually take with him a stock of money larger than that which he normally carries in his pocketbook; and if a large number of people in the same community should be going on holiday at the same time the unspent margin of the community might be temporarily increased. There are indeed factors which influence the willingness to hold such monetary stocks of all the individuals in a community. When, for instance, it is widely believed that the general level of prices will rise in the near future, the natural reaction will be for individuals to decrease the size of their stock of money in order to increase their stock of goods—and if there is a general feeling that prices are due to fall, there will be a tendency for the stock of money held by the community to increase. In such a case, it matters little whether the prophecy was accurate or not, for the change in the price level would have been brought about by the steps taken to prepare for it.

Let us carry the analysis one stage further. If an increase takes place in the total quantity of money, this will become apparent to several members of the community through an increase in their incomes. Those individuals, whose income has thus increased, may decide not to spend any more than formerly, and to use the excess to build up a larger balance at the bank—in which case the unspent margin of the community will have absorbed all of the increase in the total quantity of money, and no rise could occur in the general level of prices. On the other hand, if the members of the community should decide to increase the level of their expenditure, at a time when their incomes were falling, there would be a rise in the general level of prices because the decrease in the unspent margin of

society would be greater than the decrease in the total quantity of money.

This formulation of the quantity theory of money receives support from the experiences in several of the countries of Europe during the period from 1914 to 1928. At first, substantial increases in the total volume of money took place without any proportional rise in the general level of prices, because of the fact that most of the increased income was added by the recipients to their stock of money. The unspent margin of the community was therefore increased and the total national expenditure represented a smaller proportion of the aggregate national income. As time passed, however, the people became increasingly aware of the continuous increase in the total quantity of money, and their willingness to hold stocks of money was appreciably weakened. The unspent margin of society tended to diminish rapidly, and this factor accentuated the influence of the new money which was being put into circulation, producing a rise in the general level of prices out of all proportion to the increase in the total quantity of money.

Conclusions.—The search for the causes of changes in the value of money has led us some distance into the realm of monetary theory, but we can bring back with us certain ideas which will be of use in understanding the many problems connected with the monetary standard. The total quantity of money in circulation is important, but its influence tends to be exerted through changes in the unspent margin of society. This stock of money is the key to the whole problem, because it explains why changes in the general level of prices do not follow with arithmetical precision upon changes in the total quantity of money.

Moreover, this formulation of the quantity theory demonstrates the similarity between the factors which influence the value of money and those which influence the value of any other commodity. If the prospects of next year's cotton crop

are particularly good, the increase in the supply will exercise an effect upon the price of cotton. But dealers do not ignore the subject of next year's crop until such time as it will be harvested. Their immediate reaction is to reduce the stocks of cotton which they hold, in the expectation that they will be able to purchase cotton at a lower price later on, and the result of this attitude of mind causes the price of cotton to fall long before the new crop is harvested, and placed upon the market in usable form. Similarly, in the case of money, if people believe that the supply will be enlarged in the near future, they will hasten to decrease their existing stock of it by purchasing commodities. As a result, the value of money will fall (i.e., the general price level will rise) before any increase in the total stock of money has taken place.

Suggestions for Further Reading

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CHAPTER 5

MONEY IN THE GREAT WAR

Looking backward at the forty years of comparative peace and plenty which the world enjoyed before the beginning of the conflagration in 1914, the impression that remains in our minds is predominantly one of solid stability. Of course, there were periods of crisis, both political and economic, and the intense commercial rivalry between the leading nations of the world sometimes reached a point at which it seemed that some of the older powers would be swept aside to make room for the energetic progress of the younger members in the council of nations. But these conflicts do not, in retrospect, impress us as much as does the picture of a great economic organism, in which all countries, and all individuals, were united for the more profitable economic exploitation of the world in which they found themselves. Certainly, this impression is strengthened by a study of the literature of the period. Here and there we may find a prophet crying in the wilderness, one who was impressed with terror at the vision of the wrath to come; but on the whole the feeling of the age was one of self-satisfaction. Probably no better epitome of that period can be found than Mr. Galsworthy's *Forsyte Saga,* for although there were undoubtedly millions who were not "men of property," it was these latter in large measure who gave the predominant color to the picture.

The Pre-War Gold Standard.—The gold standard was a fundamental part of that pre-war economic organization. Almost a hundred years before it had been adopted by Eng-

land, and throughout the nineteenth century, one important country after another had reorganized its monetary system in order to place itself on the same standard, so that, in the years immediately preceding the war, the whole world was united by a monetary bond that appeared absolutely indestructible. Historical experience seemed to show that the gold standard was as near to monetary perfection as human nature could come—and, although no prophet had suggested that any monetary standard was necessary in the world of the hereafter, the venerated yellow metal was amply used by imaginative preachers to adorn the streets and dwellings of Paradise!

The gold standard was an institution that appeared to be as unchanging as the laws of the Medes and Persians. While we, at the present time, should probably define it as a system by which a country maintains the value of its monetary standard and the value of a prescribed weight of gold at a parity with one another, ignoring the question of what determined that value, the ideas of the pre-war era were much more definite. In that period the gold standard implied that the value of the currency depended upon the value of gold—and, in the dependence of the monetary system upon a metal which was universally recognized as highly desirable, it was imagined that stability and certainty had been attained. Nor were the people content with an invisible gold standard; they required the immediate evidence of metallic coin, so that gold coin constituted a substantial portion of the circulating medium of exchange throughout Western Europe and North America. Moreover, all of the other forms of the medium of exchange which were in current use, were at all times freely convertible into gold coin at the will of the holder.

Free coinage, and the right to melt coins into bullion, were acknowledged in almost all of the leading countries of the world, and, to complete the system, the inhabitants of those countries were generally allowed to import or export gold

bullion without let or hindrance on the part of the authorities.[1] It was impossible, therefore, as we observed in our discussion of the medium of exchange, for the value of the monetary standard to vary in the slightest degree from the value of an equivalent weight of gold bullion in the international market. If the price level in England should be higher than that in France—or, to put it another way, if a given quantity of gold bullion would purchase less commodities in the form of pounds sterling than it would purchase if used in the form of francs—then England would be a good country in which to sell goods and a bad one in which to buy them. Imports of commodities into England would, therefore, tend to increase, while the exports of English commodities would decline, so that an adverse balance of trade would lead to an export of gold. This process would continue until the price level in England should, by reason of the decreased quantity of gold in the country, fall to the same level as that in France. On the other hand, if, in the above instance, the general price level in France had been below that prevailing in the other countries, the inflow of gold would continue until it had been raised to the necessary height.

The process was comparatively simple, and had the appearance of being entirely automatic—although it was admitted that the central banks of the various countries performed a valuable function in facilitating the workings of the system. Throughout the world, or at least throughout that large and important part of it which was on the gold standard, a given quantity of gold would purchase approximately the same amount of commodities. Moreover, the relative value of the various monetary units was an established fact. Since the gold content of the English pound sterling was 113.0 grains, while that of the dollar was 23.22 grains, the value of the pound in terms of dollars was precisely $4.866—which is only another

[1] This statement is subject to qualification in the case of France, and to some extent Germany, where the export of gold was sometimes discouraged by the State.

way of saying that a hundred ounces of gold could be coined into £425 or $2,067. Thus the whole world was linked together by the fact that the value of gold in terms of goods was similar throughout the world, while the various monetary units were definitely linked to one another.

The War: Its Effects Upon the Monetary Standard.—At the outbreak of war this intricate monetary system, which had seemed so permanent, was utterly destroyed. At the very beginning every one of the belligerent powers abolished the gold standard, by the simple process of suspending the conversion of paper money and other forms of medium of exchange. If gold had been venerated before the war, it now received even more adulation, for in all countries an attempt was made to build up a large reserve of gold in the central banks. Gold coin in circulation, as rapidly as it came into the possession of the government or the banking system, was used to augment this reserve, and Germany went so far as to hold a kind of sacrificial feast, urging everybody in the country to bring to the banks whatever gold they might have in the form of plate or jewelry. This central gold reserve was supposed, in some mysterious way, to strengthen the monetary system of the country—although nobody has ever explained clearly how this "strength" was to be transmitted—but it was also of immediate practical value, for, in the general uncertainty which prevailed during the early part of the war, the credit mechanism of international trade was totally destroyed, and substantial exports of gold were often necessary to pay for the imports of commodities which were vitally needed by the belligerent governments.

The importance of the gold reserves in the successful prosecution of the war is, however, of little importance from the viewpoint of the monetary system. In regard to the monetary standard, the vital fact is that the general medium of exchange in actual use was no longer convertible into gold coin. This

result was achieved by different methods in the various countries. In Germany, under the law passed on August 4, 1914, the Treasury and the Central Bank were both legally absolved from their obligation to issue gold coin in exchange for other forms of money—so that the gold standard was formally suspended, for the time being at any rate. In England no such step was taken, and in theory the gold standard was not in any way impaired—but the same result was secured in practice by a different method. "During the war any one endeavoring to secure gold was put in the position of being very unpatriotic, while since the war redemption (of paper money) in gold has been prevented by various means. If a note was presented at the Bank of England, and gold demanded, the person was asked to step inside and talk the matter over. Seated in a chair with an array of bank officials before him, he was asked if he would not waive his right for gold out of public spirit. If he insisted, he was finally told, as gently as possible, that the Bank could not comply with his wishes, the reason being that the assumption was that a person who demanded gold wanted it for illegal purposes."[2]

The immediate effect of this step was to render each monetary system independent of gold. The value of the monetary standard had no longer any relationship to gold bullion, so that it had no definite relationship to the monetary standard of any other country. The level of prices, or conversely the value of the monetary unit, within a given country was thus rendered independent of the price level in other countries, and the whole intricate monetary structure of the pre-war world had disappeared. Naturally there were many advantages of the old system which were now lost, but, on the other hand, it might be contended that each country was now the master of its own monetary fate in a more complete sense than ever before, because it was immune from any direct economic influence

[2] J. P. Young, New York *Times*, May 3, 1925.

from other countries. The value of the monetary standard was now entirely under the control of the country itself.

Inflation in the Belligerent Countries.—In discussing the subsequent monetary history of the war, it will be convenient to separate the belligerent powers from the neutrals, since the results of war-time developments were different in the two cases. A belligerent nation must from the very outset carry on the war with the utmost vigor. There is no possibility of a nation's taking its time about commencing active hostilities, for, once the war has begun, a nation is fighting for its very existence, and all other considerations are subordinated to the one supreme aim of bringing its maximum force to bear upon the enemy. But war has become a very expensive business nowadays, so expensive indeed that every one of the belligerents underestimated the cost by a substantial amount. The famous "war chest," which Germany had kept at Spandau to meet the expenses of such a crisis as that of 1914, contained some 120 millions of marks in gold. But the month of August, 1914, during which mobilization took place, necessitated an expenditure of 2,000 million marks—or more than the total cost to Germany of the war of 1870–1871![3]

The belligerent governments were thus faced with the immediate necessity of finding large sums of money to meet these war expenses. In normal times the funds needed by the state are obtained either through taxation, or by borrowing. For all expenditure of an unproductive nature, it is apparent that taxation represents the only sound method by which a government can obtain money, since, if the government demands that I pay in the form of taxes a sum of $500, my purchasing power in the market will be decreased by that sum, while the purchasing power of the government will be increased by an equal amount. Such a method of raising the revenue to meet the expenses of the war has much to recommend it in theory (and

[3] K. Helfferich, *Money*, p. 223.

might well be adopted during the later stages of hostilities) but it does not meet the immediate need for large sums of purchasing power, with which the government is faced when war breaks out. Taxes must be enacted by the legislature, a business which does not always receive prompt attention, and, even when the necessary legislation has been passed, the collection of the taxes requires a substantial period of time, so that some other method of raising money must be used at the outbreak of hostilities.

Borrowing, on the part of the government, in the general capital market does not commend itself as a practical expedient at such a time. A state loan requires a good deal of preparation before it can be floated and, even if all of the necessary preparations have been made in advance, the disorganization of the capital market and the credit system in general, which generally characterizes the outbreak of hostilities, would offer but little chance of such a loan meeting with success.

There remains, however, one possibility. The government may, either directly or indirectly, bring about an increase in the total quantity of purchasing power within the country. This aim is attained in either one of two ways. In some cases the government may actually print paper money in quantities adequate to meet its needs, and use this paper money to pay the various obligations which it has to meet. This was the practice adopted by the United States during the Civil War, and it has left us a substantial quantity of greenbacks as a legacy. During the last war, however, the process was generally performed in a more subtle fashion. The government borrowed money, for short periods, from the central banks, and used this money to pay its bills. The idea is not a new one. In normal times the government frequently borrows substantial sums from the banking system, in anticipation of the revenue which it receives from taxation. During the war, however, only a very small proportion of these loans was repaid out of taxation. The more general process was for the govern-

ment to float a long-term bond issue from time to time, repay its short-term borrowings out of the proceeds, and then begin the whole process over again.

Now it is clear that a general increase in the volume of purchasing power acts as a method of taxation. If the total volume of money in the community is $1,000,000, of which $100,000 is in the national treasury, the government will be able to purchase approximately one-tenth of the total supply of commodities and services which are offered in the markets of the community. Let us suppose that the total quantity of purchasing power is increased to $1,500,000, either through the printing of paper money or by reason of an expansion of bank credit, and that the whole of the additional half-million dollars is placed in the national treasury. The total purchasing power in the community is now $1,500,000—but of that sum $600,000, or more than one-third, is now in the hands of the government, so that it can now purchase in the market somewhat more than one-third of the commodities and services offered there, while the rest of the community will only be able to obtain the remaining two-thirds instead of its previous consumption of nine-tenths.

This example is naturally oversimplified, but the implication is clear that, by inflation, the government can increase its demands upon the real wealth of the nation just as effectively as, although less equitably than, it could by raising the general level of taxation.

It may be contended, however, that the process of short-term borrowing, which is ultimately repaid out of the proceeds received from the sale of bonds, will not cause any increase in the volume of purchasing power. This would be true if the act were an isolated one, for the proceeds of the bond issue would be used to retire the bank loans, and the total volume of purchasing power would fall to the original level. Even in this case there would have been an inflation during the period elapsing before the sale of the bonds, and during the war the

continuing requirements of the government made any actual *decrease* in the volume of purchasing power a practical impossibility. Moreover, in many cases, the bonds themselves were not paid for out of savings, but out of the proceeds of loans obtained from the banks for that purpose; for whereas the $500 which I paid to the government in taxes results in a definite decrease in the money which I have to spend on the things I desire, it is probable that I might easily persuade my bankers to lend me the money to buy a $500 government bond, and so obviate any decrease in the funds available to me for other purposes.

In all belligerent countries, therefore, there was a substantial increase in the total quantity of the medium of exchange in circulation. At first this took the form of an increase in the volume of bank credit, but as the time passed a substantial increase also occurred in the quantity of paper money in circulation. Thus in England, whereas the total quantity of paper money in circulation in July, 1914, was £35.5 millions, it rose by the end of the year to £74.6 millions, and to £138.4 millions by the end of 1915. The process of expansion continued steadily, and by November, 1918, the figure had risen to £362.3 millions. Some allowance must be made for the fact that a substantial amount of gold coin had been in circulation in the country before the war, and that the paper money was to a certain extent taking the place of these coins as they were steadily withdrawn from circulation. It is doubtful, however, whether any substantial quantity of gold coin remained in circulation after the end of 1915, and the continuous increase in the quantity of paper money after that date must be regarded as an increase in the total quantity of the medium of exchange in active circulation.

The growth in the volume of currency occurred in other countries besides England, sometimes more rapidly and sometimes less rapidly. In Germany, there were in July, 1914, approximately 3,000 millions of marks circulating in the form

of Reichsbank notes. During the war this figure grew steadily, as is shown by the figures on page 70, reaching an aggregate of nearly 19,000 millions by November, 1918. Even in the case of the United States, the note circulation of the Federal Reserve Banks rose from $420 millions at the time of America's entry into the war to $2,568 millions when the Armistice was signed.

Effects of the Monetary Policy of the Belligerents.—This tremendous increase in the total volume of purchasing power in the several countries naturally had very marked effects. The first change to be noticed was in the nature of the medium of exchange in daily use. Whereas coin had been predominant before the war in most European countries—gold coin for the larger transactions and silver coin as subsidiary money—the chief form of common money was now paper notes issued by the government or the central bank. Gold coin tended to be replaced by paper money during the very early stages of the war, and rapidly disappeared from circulation, but the same tendency began at a later stage to show itself in the case of the silver coinage. The decrease in the value of money, coupled with the increase in the price of silver bullion, made it profitable in many countries to withdraw silver coins from circulation and melt them down for commercial uses or for export. This situation was met in England by a reduction of the fineness of the subsidiary silver coinage; in Germany it was met, to a limited extent, by the issuance of coins made of aluminum or iron; but, generally speaking, the tendency, outside of the United States and England, was for a progressive increase in the circulation of paper money through the issuance of notes of smaller denominations. In many cases, the smaller notes were not even issued by the government or the central bank. They were obligations of a municipality or of individual commercial institutions, and the experiences of those who were in France during the war give ample evidence of the fact that the accepta-

bility of this form of medium of exchange was distinctly limited.

The second effect of the increase in the total quantity of purchasing power was found in the changes which it brought about in prices. Taking first the matter of commodity prices, the early increases in the quantity of money tended to have a less than proportional effect upon the general level of prices, because of the fact that people tended to increase their stocks of money. Putting the matter in another way, there was during the early stages of the inflationary process, no general desire on the part of individuals to increase their expenditure in proportion to the increase in income which they experienced. As the war progressed, however, the general public became increasingly conscious of the continuous increases in the total quantity of money, and it became apparent to them that additional increases would be made in the near future. Gradually, people became less willing to hold stocks of money, and in some countries there came a time at which nobody would hold any money at all for a single moment longer than was absolutely necessary. During the later stages of the inflationary process, therefore, the general price level in the community tended to rise very much faster than the increase in the total quantity of purchasing power.

The statistics in Table III of conditions in Germany[4] give some idea of this development, although naturally they cannot offer any definite measurement of the increase in the velocity of circulation of money, because of our inability to include in the comparison the statistics showing the tremendous increase in the volume of bank credit against which checks could be drawn to serve as a medium of exchange.

Such an increase in the general price level is serious enough in itself. We, who are accustomed to regard our money as comparatively stable, although we do occasionally grumble about the fact that prices have risen somewhat since the palmy

[4] J. P. Young, *European Currency and Finance*, Vol. I, pp. 526–530.

TABLE III. INFLATION IN GERMANY

	Quantity of Reichsbank Notes in Circulation	Index Number of Wholesale Prices (1913 = 100)
Dec., 1914	5,045 million	125
" 1915	6,918 "	148
" 1916	8,055 "	151
" 1917	11,468 "	203
" 1918	22,188 "	245
" 1919	35,698 "	803
" 1920	68,805 "	1,440
" 1921	113,639 "	3,490
" 1922	1,280,094 "	147,480
" 1923	496,507,424,772,000 "	126,160,000,000,000

days of 1913, can scarcely conceive of a decrease in the value of money such, that in 1923 it would have required 126 *trillion* marks to purchase commodities which would have cost 100 marks ten years before. Such a depreciation in the monetary standard would have been phenomenal enough, even if all prices had risen in the same proportion, so that the individual who had in 1913 received wages of 50 marks a week would in 1923 have received an income of 63 trillions of marks. But such a uniform increase did not occur in the many different prices paid for individual commodities and services. Even in the field of commodity prices there were marked variations, so that, while the level of wholesale prices had reached a point some *1,617 million* times higher than the level of July, 1914, the cost of living reached a point *1,247 billion* times the previous figure.[5] The necessities of life had bounded upward in price with a rapidity which left the prices of luxuries far behind.

But it was upon the distribution of the social income that the general increase in prices exercised the greatest influence. Individuals who before the war had been living comfortably upon a fixed income, received from the interest on bonds, or some other similar source, found their income practically wiped out. A resident in Berlin who was receiving 100,000 marks a

[5] *Prices in U. S. and Abroad*, Government Printing Office, pp. 43, 47.

year would have been considered very wealthy before the war. In 1923 he would have been unable to purchase a single meal with the whole of his annual income. Persons who were in receipt of fixed salaries fared but little better for, although the salaries were raised from time to time as the depreciation in the monetary standard progressed, the increases always tended to lag very far behind the increase in the general price level. To the extent that the laboring classes were unable to force wage increases from their employers, the same might be said of them—and outside of the United States and England there is little doubt that the laboring classes suffered from a substantial decrease in their real income by reason of the monetary inflation brought on by the war.

Turning to the other side of the picture, we find that the business community as a whole tended to find a substantial pecuniary advantage in the rise of prices. The prices of commodities tended to rise from monetary influences while the commodities themselves were in process of manufacture, or were lying idle upon the dealer's shelves, so that the entrepreneur was enabled to reap a much larger monetary profit than would have accrued to him under conditions of stable prices. Industry, therefore, tended to boom—and this result of the inflation must indeed be recognized as an advantage to a belligerent nation in time of war. To utilize to the full the natural resources of the nation, it is necessary that industry should be kept in operation at the maximum pitch of productive efficiency, and—while society may be following the example of the famed Ho-ti who burned down his house in order to obtain the culinary delicacy of a roast pig—it must be admitted that gradually rising prices are unequaled as a spur to business activity.

We may observe, therefore, in all of the belligerent countries, although in varying degree, a substantial change in the distribution of wealth. Some classes in the community have fallen from wealth to penury, while others have reaped fortunes

from business, which have enabled them to be numbered among those "nouveaux riches" at which so much caustic humor is nowadays directed. Miss Dulles[6] places this among the most important results of the recent inflation in France. "In the first place," she says, "the temporary loss in financial prestige has been considerable. In the second place, production has come to be dominated more and more by large manufacturing units and corporate forms of enterprise. The results of this change are likely to persist. In the third place, the shift of power from the middle classes to the industrial leaders and to those with more flexible incomes appears to have changed the character of French life and ideals to a notable extent. Other results of the depreciation might be mentioned but these are the most striking."

Other Indicators of Inflation.—Two other groups of prices must also be noticed, however—the price of gold and the foreign exchange rates. Under a gold standard the price of gold is not really a "price" at all; it is a quantitative measurement. So long as an ounce of pure gold can be coined into $20.67, nobody will be willing to pay more than this sum for an ounce of gold, nor will anybody sell gold bullion for less. With the abolition of the gold standard and the creation of an independent paper standard, however, gold becomes an ordinary commodity the price of which is no more definitely fixed than is that of any other commodity. And, as occurred in the case of commodities in general, the price of gold bullion tended to rise in terms of the currency of each country. Naturally this rise in price varied from one country to another, being greatest in those countries in which there had been the greatest increase in the volume of purchasing power, but even in the case of England the price of gold in 1920 was some 30% higher, in terms of the existing currency, than it had been when measured in terms of the pre-war pound sterling.

[6] *The French Franc*, p. 1.

The general subject of the foreign exchanges will receive more adequate treatment in a subsequent chapter, but it is necessary to recall at this point that, with the abolition of the gold standard, there disappeared all trace of definite relationship between the various currencies in the international market. Before the war the gold in the British sovereign was worth $4.866, and the price of pounds sterling in New York did not vary greatly from this figure. When the value of the pound sterling became independent of gold, however, its value would fluctuate in terms of dollars to a much greater extent. The only limits to the upward or downward movement of its price in dollars would be set by the forces of supply and demand, so that it reached in 1914 the unprecedented height of over $7.00, and fell in 1920 to a low point of $3.22. As in the discussion of the price of gold, we find that the foreign exchange values of the various currencies, as measured in terms of the number of dollars which Americans were willing to pay for them, varied substantially from one country to another. While the lowest quotation for the pound sterling was equal to nearly 75% of the average pre-war rate, the price of the German mark dropped from the pre-war rate of nearly 24 cents to an infinitesimal fraction of a cent.

There are, therefore, three methods by which we can measure the depreciation in value of the monetary units of the various belligerent countries. First, by the rise in the general price level within the country; second, by the increase in the price of gold bullion; and third, by the price at which the money of the country could be sold in the foreign exchange market. The results of these various measurements differed substantially, but from all three angles a marked decline in the value of the monetary units of all of the belligerents is apparent, although the extent of the decline varies considerably from one country to another.

A minor exception to this statement must be made in the case of the United States. Although the existence of the gold

standard in this country was technically impaired by the embargo on gold shipments, which was in force from the middle of 1917 to the middle of 1919, at no time did the value of the dollar depart from the value of the weight of gold bullion which it contained, i.e., the dollar did not depreciate in terms of gold. Moreover, in the case of foreign exchange rates, although the dollar did depreciate to a slight extent in the markets of some countries, that depreciation was relatively unimportant in comparison with the extent to which the currencies of the rest of the world depreciated in terms of the dollar. In the case of the United States, therefore, the sole measure of the depreciation in the value of the monetary standard is to be found in the rise of the general level of prices. As a matter of fact, the situation of the United States throughout the war was more akin to that of the neutrals, from a monetary standpoint, than to that of the other belligerents, and it will, therefore, be dealt with in the following section.

The War and the Neutrals.—We must now go back to the conditions in the neutral countries at the beginning of the war. When the belligerent nations abolished the gold standard, and set out to accumulate large gold reserves, many of the smaller countries were forced to protect themselves from an export of gold by a temporary suspension of the right to convert other forms of money into gold. This step did not prove necessary in the United States, but in its absence there were substantial exports of gold to Ottawa[7] during the early weeks of hostilities. The preventive measures designed to protect the gold of the neutral countries soon became unnecessary, however. As we noticed earlier, the belligerents found themselves in need of substantial quantities of goods and services, which they were compelled to obtain from neutral nations. The demand for the products of the neutrals was most persistent,

[7] Gold was sent to Ottawa for the account of the Bank of England, owing to the danger of loss from German raiders should it have been sent across the Atlantic.

and was often reinforced by the sea power which remained with the Allies throughout the war. A substantial expansion in industrial activity was, therefore, experienced, and prosperity increased by leaps and bounds.

To finance this increase in business activity, and to meet the governmental expenses which neutrality entailed, a large increase in the quantity of purchasing power was obviously necessary. As in the case of the belligerent nations, the increase was primarily in the form of bank credit, although substantial increases in the circulation of both coin and paper money followed at a later date. The conditions in the neutral countries differed, however, from those in the belligerent countries. The gold reserves, which the latter had so carefully accumulated, were used in part to pay for the imports of commodities from the neutrals (including the United States)—so that, whereas the belligerent countries were faced with the possibility of a continuous decrease in their gold reserve, the neutrals found themselves flooded with substantial gold imports. Thus the United States, to take only one example, experienced during the war the following annual excess of gold imports over gold exports.

Year	Net Gold Imports into the U. S.
1915	$420 millions
1916	530 "
1917	165 "
1918	21 "

Taking a somewhat longer view, the United States had a net importation of gold during the period from 1914 to 1925 of $2,240,000,000, its total stock of monetary gold growing from $2.6 billions to $4.5 billions. Although this tendency is more emphatic in the case of the United States, which as a neutral or belligerent was equally the major source from which the other belligerent nations could obtain the things they needed, it was felt by all of the other neutrals.

At first the inflow of gold was regarded with much favor, since it tended to strengthen the gold reserves of the neutral nations. After a while, however, it became apparent that the flood of gold was being used as the basis of a very large increase in the total quantity of bank credit. Indeed, it was often the demands for goods made by the belligerents that caused the expansion of credit. Substantial increases in the general level of prices therefore became apparent in all of the neutral countries, and some of them, in an effort to stem the tide of inflation, tried to protect themselves from the flood of gold which hammered at their door. In 1916, Sweden, Norway, and Denmark relieved their central banks of the obligation to purchase gold at a fixed price, (i.e., the right of free coinage of gold was suspended), while others such as Spain maintained the right but reduced the price at which gold bullion would be received.

The belligerent countries had freed their monetary system from gold by suspending the right of redemption, so that the value of gold might rise above that of the monetary standard. The neutrals had allowed the value of gold to fall below that of their currency by waiving the right of free coinage. Only a few places remained in the world where there was any effective relationship between the currency and metallic gold, and of them the United States was easily the most important. But the value of the dollar, as measured in terms of the general price level, had fallen substantially owing to the inflation brought on by the war—and, since a dollar remained equal to 25.8 grains of standard gold, it followed that the value of gold must fall in the same ratio as the value of the dollar. This is actually what happened, and throughout the war there was a steady and continuous decrease in the value of gold in terms of the commodities for which it would exchange. It is for this reason that the depreciation of the monetary units of the other belligerents was substantially less when measured in terms of gold, than it was in terms of the general price level.

Suggestions for Further Reading

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CHAPTER 6

POST-WAR MONETARY STANDARDS

The Armistice of November 11, 1918, put an end to active hostilities between the two groups of belligerents, but the monetary developments to which the war had given rise were not so easily terminated. During the war, the various governments had fallen into the habit of spending money, without any particular thought as to how that money could be obtained, and so comfortable a frame of mind was not likely to be disturbed by a simple matter like the conclusion of hostilities. Of course, a certain amount of the money had been raised by taxation, as it had been in the "good old days" before the war, but in every belligerent country, including the United States, the rate of expenditure was far in excess of the revenue produced by taxation, and the balance had been obtained very easily by means of inflation or by borrowing. Even when the possibilities of borrowing from one's own citizens were rather limited, there was always the great treasure house of the West upon which the Allied nations might freely draw, so that the Allied powers sought to make themselves prosperous by the ancient device of borrowing from one another, with the United States and England as the principal creditors. But even England was compelled to borrow from the United States, so that, by the end of the war, all of the other Allied powers found themselves heavily in debt to "the great Sir Galahad of the West, whose bill did not seem any smaller because his heart was pure." Even these foreign obligations sat lightly upon the hearts of the debtor nations, because there was in their minds a hope that, in some way or another, the debts would be scaled down or canceled entirely.

Reasons for Post-War Inflation.—The habit of spending money lavishly is easy to acquire, but difficult to overcome, and this applies particularly to the governments of democratic countries, for no political party is as popular as the one which spends plenty of money and so engenders a feeling of prosperity throughout the country. Yet it would be unfair to attribute these post-war fiscal policies solely to a spendthrift extravagance. There were very real economic factors which prevented any sudden decrease in the level of government expenditure. In the first place, substantial contracts had been entered into during the war, which could only gradually be liquidated. Secondly, there had been built up a large bureaucracy, to handle the administration of the various matters which the government had found itself compelled to control. There were food administrations, fuel administrations, shipping councils, and all the other bodies which had been called upon to play their part in the greatest experiment in socialism that the world has ever seen, and, although every effort was made to return as rapidly as possible to the pre-war freedom of economic activity, it was natural that the various bodies could not wind up their affairs at a few hours' notice. Finally there was the vast problem of demobilization. Millions of men had been called to arms, and, if they were suddenly demobilized, it was generally feared that industry would not be able to absorb them. A large body of unemployed men, who have been trained to fight, might constitute a very dangerous mob, and there was too much of the breath of revolution in the air for the governments to permit such a contingency to arise. The process of returning men to civil life was therefore carried out slowly, in the hope that industry would be able to absorb the ex-soldiers if they presented themselves in groups of a few thousands each month.

These expenditures were common to all of the belligerents, but there were others, of equal and greater importance, which faced individual countries. France and Belgium had to meet

the problem of reconstructing vast areas which had been devastated by the ravages of war, and, although they firmly believed that Germany would ultimately repay them for this expense, the immediate funds for the reconstruction work had to be found by France and Belgium. On the other hand, there had been imposed upon Germany, by the Treaty of Versailles, an obligation in regard to reparations which we now recognize to have been very much greater than she could possibly pay, and the Allied powers expended large sums of money in the futile attempt to force Germany to pay that preposterous indemnity.

In addition to all of these economic forces which tended toward continued inflation, there was a general prevalence of inflationary psychology for another reason. This was largely due to the existence of vast national debts, sums which the various governments had borrowed to meet a portion of the expenses of the war. If inflation were allowed to continue, and the value of the monetary unit to depreciate, the burden of these debts would rest much less heavily upon the national Treasury. If the franc, in terms of the commodities for which it would exchange, were permitted to fall to one-fifth of its former value, then the payment of a certain number of francs each year, as interest and sinking fund charges on the national debt, would represent a much smaller portion of the national income. Carrying the process to its logical conclusion, we might add that if the value of the monetary unit were allowed to depreciate to zero, the burden would be extinguished! This, of course, is not a valid argument for inflation. A century and a half ago, Adam Smith pointed out that such a pretended payment, "instead of alleviating, aggravates in most cases the loss of the creditors of the public, and without any advantage to the public extends the calamity to a great number of other innocent people. It occasions a general and most pernicious subversion of the fortunes of private people, enriching in most cases the idle profuse debtor at the expense of the industrious

and frugal creditor, and transporting a great part of the national capital from the hands which were likely to increase and improve it to those which are likely to dissipate and destroy it. When it becomes necessary for a state to declare itself bankrupt, in the same manner in which it becomes necessary for an individual to do so, a fair, open, and avowed bankruptcy is always the measure which is both least dishonorable to the debtor and least harmful to the creditor. The honor of a state is surely very poorly provided for when, in order to cover the disgrace of a real bankruptcy, it has recourse to a juggling trick of this kind, so easily seen through and at the same time so pernicious."[1]

Other writers in the generations which have followed Adam Smith have reiterated the wisdom of these remarks, but human memory is short and hope is eternal. Despite all the experiences of history, there was undoubtedly a general feeling, during the early post-war years, that inflation would be highly beneficial if it lowered the real burden of the national debt.

In view of the expenses of the governments, and of the popular psychology, it is not at all surprising that the process of inflation continued after the Armistice. The tendencies of governmental fiscal policy were, moreover, augmented by the demands for credit on the part of business which, finding that its fears of a post-Armistice depression were apparently groundless, embarked on a period of rapid expansion. The financial prosperity of the period from the beginning of 1919 to the middle of 1920 was intense. The expansion in the volume of purchasing power was greater than it had been during the war, and the general level of prices rose to new heights, as Table IV clearly shows.

The crisis which came in the summer of 1920, and the depression which followed it, put a stop to the inflationary process in several countries (notably the United States and England), but in other cases this was only a temporary setback

[1] *Wealth of Nations*, Bk. IV, Ch. III.

TABLE IV. ANNUAL AVERAGES OF INDEX NUMBERS OF WHOLESALE PRICES IN VARIOUS COUNTRIES

	Germany (Stat R. A.)	England (Economist)	France (Stat Gen.)	Netherlands (Ctr. B. S. St.)	Sweden (Sv Hand)	U.S.A. (Broad Street)	Japan (Bank of Japan)
1913...	100	100	100	100	100	100	100
1914...	106	99	102	105	116	97	96
1915...	142	123	140	145	145	107	97
1916...	153	160	187	222	185	128	117
1917...	179	204	261	286	244	170	149
1918...	217	225	339	392	339	203	146
1919...	415	235	356	287	331	203	240
1920...	1,486	283	509	281	347	197	258
1921...	1,911	181	345	181	211	122	201
1922...	34,200	159	327	160	162	134	140

in the rapid upward movement of the price level, which continued for several years in many of the countries of Western Europe.

Why Inflation Ultimately Stopped.—In view of the situation already outlined, it might be expected that inflation would continue indefinitely, and there are many writers who at various times have recommended a policy somewhat akin to this.[2] It is necessary, therefore, to analyze carefully the reasons for the cessation of inflation, and on the whole it may be said at the outset that this is very definitely a case in which "plenty surfeits oft."

To begin with, the efficacy of inflation as an instrument of taxation tends to decrease very rapidly as the inflation progresses. While a government can always, for a short while at least, raise by inflation the money which it is not able to obtain from taxes, it finds itself in difficulty if it tries to do so continuously for a long period of time. With progressive inflation, tax revenues always lag behind the continuous fall in the value of money. This is especially true in the case of such taxes as the income tax, which are assessed on the income

[2] See pp. 328–331.

of some past period, but will be paid at a later time in a depreciated currency, whose value has fallen substantially below what it was during the period on which the tax was assessed. The difficulty is to some extent removed in the case of turnover taxes or customs duties, in which the period between assessment and payment is much shorter, but even here the government is apt to find that, due to the continuous depreciation of the monetary unit in terms of commodities, the revenue for which it had provided in its budget will prove inadequate to meet its expenditures at the higher level of prices which prevails before the fiscal year is over. When inflation becomes as rapid as it did in Germany during 1922 and the early part of 1923, any sort of budget becomes utterly impossible.

In the second place, continuous inflation ceases after a time to stimulate industrial productivity. During the early stages, as we have seen, inflation operates as a powerful spur to business activity, but this is primarily due to the fact that business men believe that the depreciation in the value of money is a temporary thing. When it becomes apparent to them that the inflation is a continuous process, and that the value of money will in all probability continue to depreciate in the future, everybody becomes unwilling to hold money, or even to receive money in exchange for goods. Inflation is then a positive deterrent to business activity, and the whole economic organization is brought to a standstill, as happened in both Germany and Russia.

Thirdly, the continuous decline in the value of the currency, which results from progressive inflation, invariably leads, if it continues long enough, to a "flight" from the currency. People are unwilling to hold stocks of the currency, which they realize from experience will only depreciate on their hands, and therefore business comes to be conducted in some foreign currency which is comparatively stable in value. Everybody tries to turn his funds into that foreign currency, and a secondary result of this tendency is apt to be an actual transference of capital to

foreign markets, through investment in foreign securities. The primary thing from the monetary viewpoint is, however, the fact that the currency ceases altogether to play any active part in the economic organization of the country, and, as was said of the continental currency of the American Revolution, "Like an aged man expiring by the decays of nature, without a sigh or a groan, the paper money gently falls asleep in the hands of its last possessor."[3] Thus in Germany, during 1923, while the law prohibited actual dealings in dollar currency, prices as stated in marks were hourly, and even momentarily, adjusted in accordance with the fluctuations in the price of the mark in New York.

As a result of these tendencies, a point was reached at which inflation was no longer profitable. Indeed in some cases it was no longer possible, and the nations which had been continuously inflating were compelled to take stock of their monetary policy, and make a definite decision with regard to the future value of their monetary unit.

The Value at Which to Stabilize the Currency.—It was clear that the value of the monetary unit must be stabilized, but at what level should stabilization take place? In theory each country was faced with four possibilities, viz.:

1. It could repudiate the existing currency and start afresh with a new monetary unit.
2. It could carry out a policy of deflation designed to bring its money back to the pre-war value.
3. It could stabilize its currency at the present level.
4. It could choose some point between the existing value and the pre-war value at which to stabilize.

The repudiation of the currency was a strong step to take, and one from which any nation that desired to maintain a shred of financial prestige would shrink, if there were any other way out. To issue currency to the inhabitants of a country, to allow

[3] David Ramsey, *History of the American Revolution*, Vol. II, Ch. 17.

that currency to be purchased throughout the world as a right to wealth, and then coolly to admit at a later date that this currency had no value at all—such a step was unthinkable to most nations. Indeed we find that the only two countries which allowed inflation to go so far that repudiation followed had both experienced the throes of revolution. In Russia, the policy of inflation had been adopted by the Soviet government with the avowed intention of breaking the power of the bourgeoisie, and destroying the capitalist system; and it was at a later date, when the necessity for economic contact with the outside world was recognized, that the chervonetz was established as a new monetary unit for foreign exchange purposes. In the case of Germany, the continuation of the inflationary policies was in large measure due to the reparations problem, and the stabilization of the mark[4] in 1924 was linked up with the Dawes plan for the temporary settlement of reparation payments.

The second alternative, to return to the old gold parity of the currency, was an attractive dream to the sentimentalists of all countries. It had, moreover, certain definite advantages for a country with large international financial interests, for, in the field of international finance, stability is a matter of vital importance, and a return to the old gold parity of the monetary unit would be a gesture of strength as well as a soothing evidence of financial stability. It must be remembered that, by the time of the Brussels Financial Conference in 1920, there was a general agreement that the return to the gold standard was the best policy. There had been many people who had hoped that, out of the existing chaos, there might be created a new monetary system which did not suffer from the defects of the gold standard,[5] but the gold standard of the pre-war days seemed very attractive to a war-weary world, and there was about it an appearance of solid regularity which was lacking

[4] The new mark, equivalent to the old gold mark, was made to exchange for 1,000,000,000,000 of the paper marks in circulation.

[5] See Chapter 21.

in many of the substitutes that were proposed. Since, therefore, the aim was to establish the currency on a gold basis once again, to have chosen any monetary unit of a lower gold content than that which had existed in 1914 would have been to create an appearance of financial weakness.

But the return to the old gold parity involved *deflation*. It is true that the value of gold had fallen somewhat in terms of commodities, but the value of the monetary units of the belligerent countries (excepting the United States) had fallen very much more. To bring those currencies back again to the old gold parity would have involved such a decrease in the volume of money within the country as would cause prices to fall to a level comparable with those in the only remaining country of importance which was on the gold standard, i.e., the United States. But deflation acts as a deterrent to business activity, in the same way that inflation acts as a spur: if the deflation is great enough to cause a rapid fall in prices, all prospective business profits are turned into losses, industrial activity ceases, and the country is thrown into a depression. This was acutely realized, and the Brussels Financial Conference itself, while it appears to have favored such a policy, pointed out in its report that, "deflation, if and when undertaken, must be carried out gradually, and with great caution, otherwise the disturbances to trade and credit might prove disastrous."

In the case of the majority of the countries concerned, inflation had proceeded so far that a return to the old gold parity was not to be thought of. The necessary deflation would have wrecked the whole economic structure of the nation. We find, therefore, that the only important countries which succeeded in the attempt to achieve this ideal were England and the British Dominions, and there has been much doubt as to the wisdom and timeliness of the step even in the case of England.

There remained the countries which had no thought of repudiation, and yet were unable to bring their currencies back

to the pre-war parity. The problem confronting these countries had been fully realized by the time of the Genoa Financial Conference in 1922, which differed from its predecessor at Brussels in that it favored *devaluation* rather than deflation. While it was equally emphatic in regard to the necessity for a return to the gold standard, it suggested that it would be economically better, as well as more convenient, if the currency should be stabilized at a gold parity lower than that which had existed before the war. This was the procedure that recommended itself to the remainder of the belligerent powers, but even when the policy had been accepted, there still remained the question whether the monetary unit should be stabilized at the existing low level, or whether it would be better to choose a level intermediate between the existing one and that which had prevailed in 1914. In the majority of cases, the latter policy was adopted, as for instance in the case of France, which in 1927 stabilized the franc at a new level of slightly less than $.04 in gold, instead of the pre-war gold parity of $.193.

The Problem of Stabilization.—Even when the actual policy had been decided upon, the problem was not entirely solved. As we suggested in the last chapter, the value of a currency, as measured by the general level of prices within the country, was often different from its value as measured in terms of other currencies, at the prevailing rates of foreign exchange. Thus in 1922 the value of the mark in New York was so much below its commodity-value in Germany that American travelers in Germany were able to live at an incredibly low price, when measured in terms of dollars. This difference existed in varying degrees in the case of all countries, and the problem therefore arose, at which value should the currency be stabilized? Stabilization undoubtedly tends to set in motion economic forces which will ultimately bring the internal and external values of the currency into equilibrium, "but the imme-

diate social and economic consequences of the particular parity chosen may be very different."[6]

Let us take, first of all, the case of a country where the foreign exchange value of its currency is substantially higher than the internal commodity-value. England is probably the best example of this situation, because at the time at which the monetary standard was stabilized at the pre-war parity of $4.866, the pound sterling in England would only purchase about 90% of the average quantity of commodities which could have been obtained in exchange for $4.86 in the United States. The immediate result of the stabilization of the pound was to fix the foreign exchange rate, subject to minor fluctuations, at the above level—but at this rate of exchange England was a good place in which to sell goods, because of the higher prices prevailing there, and a bad place in which to buy goods. Imports of goods into England were, therefore, encouraged, but English exports tended to fall off on account of a lack of buyers. The natural result of such a situation was to cause a depression in English industry, from which the country could not recover until the commodity-value of gold in England had been raised to a level equivalent to that which prevailed in the other countries which were on the gold standard. In the case of a country in which the internal commodity-value of the monetary unit was below its external foreign exchange value, stabilization at the latter figure would tend to cause an *adjustment crisis* in business activity. To prevent this it would be necessary to stabilize the currency at the level determined by the general level of commodity prices, or alternatively to bring about a fall in foreign exchange rates.

The converse situation existed in a country like Germany, in which the value of the monetary unit as measured by the general level of commodity prices was substantially greater than its value in the foreign exchange market. When the Reichsmark was stabilized at a gold parity of $.238, 1,000

[6] K. Helfferich, *Money* (Appendix by T. E. Gregory).

marks in Germany would purchase a larger volume of commodities than could be purchased with $238 in the United States. Germany, therefore, became a good market in which to buy goods, and a very poor one in which to sell goods; exports from Germany increased by leaps and bounds, while imports were discouraged. As a result of this state of affairs, business became exceedingly active, and Germany experienced a *stabilization boom*. It was even possible to increase the volume of purchasing power within the country by an amount very much greater than was apparently needed to raise the general level of commodity prices to a point at which the purchasing power of gold in Germany was equated to that prevailing throughout the rest of the world, because of the fact that the willingness of the people to hold stocks of money increased substantially.

But the stabilization boom is not an unmixed blessing, for after a while a point is reached at which any further increase in the volume of money would raise the level of internal prices above the world price level. When that point is reached the stimulus to the export trade of the country ceases entirely, while business in general finds itself unable to secure additional supplies of credit from the banks. A *stabilization crisis* is therefore apt to follow, as a sequel to the boom, and, unless the financial and business expansion is very carefully managed, the stabilization crisis is apt to be just as severe as was the adjustment crisis in countries in which the converse situation prevailed. On the whole, however, it is apparent that the economic and social consequences of stabilization are likely to be more satisfactory when a country allows the foreign exchange value of its currency to fall somewhat below the value as measured by the general price level, and then stabilizes at the lower level—an arrangement which was more nearly attained by France than any other of the nations which have recently had to face the problem.

The Post-War Gold Standard.—A complete discussion of the aims of contemporary monetary policy must be postponed until we have studied the subject of credit, and the important part played by the commercial banks in our monetary system. We have seen, however, that, during the period since the war, the world as a whole has again adopted the "gold standard," and it is necessary to realize that the post-war interpretation of that term is substantially different from that which we observed to have existed prior to 1914.

The gold standard of today resembies the pre-war system in that it establishes a definite basis on which we may determine the relative value of the various currencies of the world. Once again the foreign exchange rates are brought to rest on the basis of the relative gold content of the several monetary units. We have also regained in some measure that world level of commodity prices, for which the international movements of gold acted as a balance-wheel before the war. But we must beware of laying too much emphasis upon this aspect of the situation, because all traces of the old "automatic" workings of the gold standard have disappeared and, both in the case of commodity price levels and international gold movements, we find a great deal more conscious control of the monetary system than existed before the war. This, however, is an anticipation of our study of central banking.

With the exception of these two aspects, the idea of the gold standard has entirely changed. In every country of the world gold coinage has practically disappeared from hand-to-hand circulation and, outside of the United States, the various forms of medium-of-exchange are no longer convertible into gold coin. It is true that they may be converted into gold bullion if offered in sufficiently large amounts—in England, for example, in amounts of not less than 400 ounces of fine gold, which is equivalent to somewhat more than $8,000. This provision is, however, designed for the banker and the bullion merchant rather than for the man in the street, who now seldom

comes in contact with any monetary form of metallic gold. Even this provision of convertibility is not universal. The gold standard has in fact assumed two totally different forms, the *gold bullion standard* which has just been described, and the *gold exchange standard*. It is true that the gold exchange standard existed before the war, having been applied to India by Great Britain, and to the Philippines by the United States, but it was not considered worthy of adoption by any independent country which valued its financial prestige. Despite the nature of its origin, there are substantial advantages in the gold exchange standard, and it has frequently been employed since the war by countries which did not feel themselves well enough provided with gold reserves to adopt the gold bullion standard.

The primary difference between the two standards lies in the fact that, whereas under the gold bullion standard a country fixes the parity of its monetary unit in terms of a certain weight of metallic gold, and redeems its currency in gold bullion, a country which adopts the gold exchange standard stabilizes its monetary unit in regard to the currency of some other country which is on the gold standard. In most cases the dollar has been the chosen basis. Thus if France were on a gold exchange standard, the value of the franc would be established by the fact that 25.25 francs were equal to one dollar, and when any of the various forms of money were presented at the Bank of France for redemption the Bank could give, instead of gold, an equivalent number of dollars in the form of a check drawn on a New York bank. If the Frenchman wanted to obtain actual gold bullion he might, therefore, be compelled to import it from New York.

The present monetary organization of the world differs in many of its aspects from the system which had been in existence before the war. As order has been brought out of chaos, we have been able to observe the operation of many of the principles of monetary theory, but we have also found that the

question of money is intimately related to that of banking, because the volume of purchasing power is very largely made up of bank credit. It is necessary to extend our survey over the wider field before we can draw conclusions of practical value from the phenomena which we have been observing.

Suggestions for Further Reading

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CHAPTER 7

THE SUPPLY OF GOLD AND THE PRICE LEVEL

No subject in the whole field of monetary theory, with the possible exception of the quantity theory itself, has caused more discussion than the relationship between the monetary metals and the general level of commodity prices. Even in the classical exposition of the quantity theory, we noticed the supreme importance attached to the supply of coin and paper money, which under the pre-war gold standard, consisted primarily of gold coin or of notes which could be converted into gold coin at the option of the holder. Some writers have gone so far as to suggest that changes in the supply of gold are the prime motivating factor which brings about a change in the general level of prices, while others have pointed out that, "there has been a remarkable connection between the upward and downward movement in the purchasing power of money and the conditions which have affected the production of gold. . . . Credit currency cannot be manufactured *ad libitum* by a country which desires to retain the gold standard, and therefore, the available stock of gold continues to exercise a predominating influence on the supply side in determining the value of money in relation to commodities."[1]

The problem is, therefore, well worthy of our consideration. Speaking generally, there have been three periods in modern times during which a substantial increase in the precious metals has occurred. First, there was the increase in the production of gold and silver—but especially of silver—which followed upon the discovery of America and the develop-

[1] W. T. Layton, *Introduction to the Study of Prices*, p. 100, footnote.

ment by Europeans of the rich mines in Mexico and Peru; secondly, there was a rise in gold production following upon the discovery of that metal in California in 1848, and in Australia in 1851; and lastly, came the gold discoveries in South Africa in 1889, followed by those in Alaska and the Klondike, which led to an unprecedented increase in the annual production of gold. Ancient times had also witnessed substantial variations in the output of the monetary metals, and the studies of medieval finance by Dr. Ehrenberg[2] give evidence of similar fluctuations. There is, however, very little factual evidence remaining from these early times upon which we can base any opinion as to the relationship between the price level and the supply of the monetary metals, although there are many witnesses to the fact that such a relationship existed.

Historic Experience of Gold and Price Level.—During the three centuries from 1492 to 1800, we have considerably more information. Admittedly, much of that information consists of estimates, in which there is possibly a substantial percentage of error, but the probability of error would not in any way affect the general conclusion which the figures enable us to draw. From Table V it is clear that the production of gold and silver increased steadily throughout the period. From 1493–1520, the average annual production of gold was 5,800 kilograms, but by the end of the eighteenth century this had increased to 17,790 kilograms—more than 3 times the earlier figure. The increase in the production of silver was even more remarkable, rising from 47,000 kilograms a year at the time of the discovery of America, to 879,060 kilograms at the time of the French Revolution.

A continuous, and fairly substantial, rise in the general level of prices was evident during these three centuries, for we must remember that throughout this period both gold and

[2] Richard Ehrenberg, *Das Zeitalter der Fugger.*

TABLE V. THE WORLD'S PRODUCTION OF THE PRECIOUS METALS, 1493–1800[3]

(Annual average production in each period)

Period	Gold		Silver	
	Kg.	Approximate Value in Dollars ooo omitted	Kg.	Approximate Value in Dollars ooo omitted
1493–1520	5,800	64,728	47,000	48,880
1521–1544	7,160	79,904	90,200	89,480
1545–1560	8,510	94,968	311,600	307,860
1561–1580	6,840	76,332	299,500	291,116
1581–1600	7,380	82,360	418,900	395,440
1601–1620	8,520	95,084	422,900	385,648
1621–1640	8,200	92,628	393,600	313,304
1641–1660	8,770	97,872	366,300	281,320
1661–1680	9,260	103,340	337,000	250,728
1681–1700	10,765	120,136	341,900	254,372
1701–1720	12,820	143,072	355,600	260,300
1721–1740	19,080	212,932	431,200	319,088
1741–1760	24,610	274,684	533,145	403,056
1761–1780	20,705	231,068	652,740	496,084
1781–1800	17,790	198,536	879,060	650,504

silver were equally used as money and an increase in the production of either metal would make possible an increase in the supply of coined money. While there are many writers who estimate this increase in the price level to have been substantially greater than the following figures offered by Professor Fisher,[4] they are more than adequate to give us an idea of the continuous increase which occurred.

Year	Price Index
1500	100
1600	214
1700	257
1800	285

Despite the rapid growth in population and economic development, a rapid increase in the production of the precious

[3] Adapted from the estimates given in K. Helfferich, *Money*, p. 86.
[4] Irving Fisher, *The Purchasing Power of Money*, p. 237.

metals was accompanied by a steady rise in the price level, and, to Adam Smith, there was a very definite causal relationship between the two phenomena. "The discoveries of the mines of America," he writes, "diminished the value of gold and silver in Europe. The discovery of the abundant mines of America seems to have been the sole cause of this diminution in the value of silver in proportion to that of goods. It is accounted for, accordingly, in the same manner by everybody; and there never has been any dispute either about the fact or about the cause of it. The greater part of Europe was, during this period, advancing in industry and improvement, and the demand for silver must consequently have been increasing. But the increase of the supply had, it seems, so far exceeded that of the demand, that the value of that metal sank considerably. The discovery of the mines of America, it is to be observed, does not seem to have had any sensible effect upon the prices of things in England till after 1570, though even the mines of Potosi had been discovered twenty years before."[5]

The qualification, contained in the last sentence of the above remarks, was primarily due to the fact that the gold and silver of America was only gradually distributed among the countries of Europe. In the first instance, the greater part of it went to Spain, from whence it percolated gradually into other countries through the machinery of foreign trade. England, at that time, was not as great a mercantile nation as she was ultimately to become, and for several decades the infiltration of the precious metals into England was barely sufficient to provide for the economic growth of the country, and prevent a fall in prices. When she received a larger share in the benefits of the colonial enterprise of Spain, prices rose in England as they did in all other countries.

Coming to more modern times, we can observe from Figure 3 that the general level of prices, as measured by Mr.

[5] *Wealth of Nations*, Bk. I, Ch. XI.

Sauerbeck's index number, rose substantially during the period from 1850 to 1875, which followed upon the gold discoveries in California and Australia (see also Table VI). Again from 1896 up to the abolition of the gold standard in 1914, a substantial rise in the general level of prices followed the upward movement in the trend of gold production. The same general

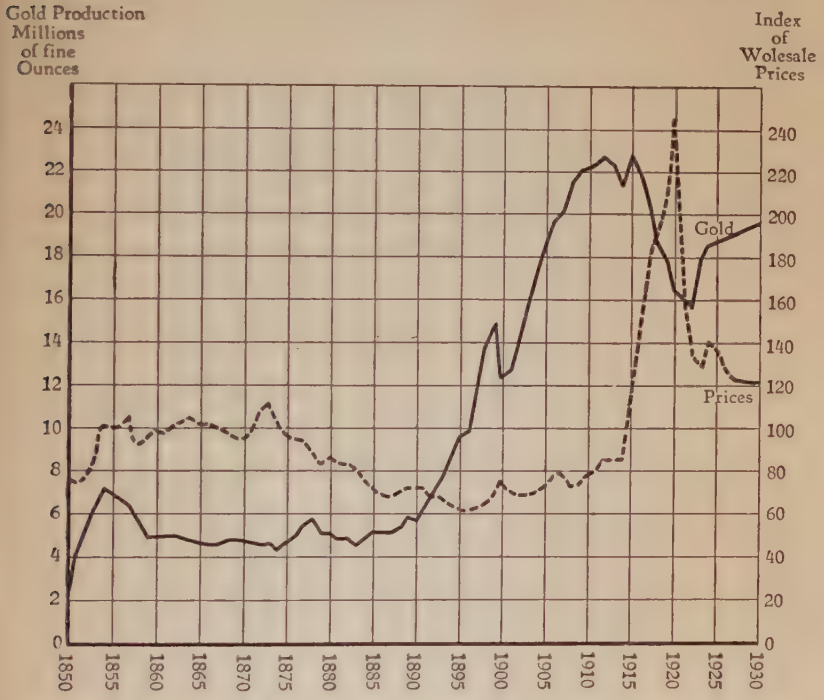

Figure 3. The Annual Production of Gold, and the General Level of Prices (*Stauerbeck-Statist Index*)

movements of prices were apparent in Figure 2 (page 47), showing the fluctuations of wholesale prices in the United States, if we omit the period for 1861 to 1879, when this country was not on the gold standard. The Sauerbeck-Statist index number of wholesale prices in England has been selected for the comparison, partly because of this intermission in the American index and partly because of the fact that England was throughout this period a free trade country, so that we

may reasonably assume that the English price level was as representative of the world price level as any example which we could find.

TABLE VI. THE ANNUAL WORLD PRODUCTION OF GOLD IN FINE OUNCES, AND THE SAUERBECK STATIST INDEX NUMBER OF WHOLESALE PRICES

(Average 1867–1877 = 100)

Year	Gold Production	Wholesale Prices	Year	Gold Production	Wholesale Prices
1850	2,820,513	77	1890	5,749,306	72
1851	4,179,972	75	1891	6,320,194	72
1852	5,350,750	78	1892	7,094,266	68
1853	6,323,174	95	1893	7,618,811	68
1854	7,102,080	102	1894	8,764,362	63
1855	7,097,242	101	1895	9,615,190	62
1856	6,744,174	101	1896	9,783,914	61
1857	6,439,284	105	1897	11,420,068	62
1858	5,573,295	91	1898	13,877,806	64
1859	5,036,284	94	1899	14,837,775	68
1860	4,983,067	99	1900	12,315,135	75
1861	4,963,716	98	1901	12,625,527	70
1862	4,954,040	101	1902	14,354,680	69
1863	4,915,336	103	1903	15,852,620	69
1864	4,891,147	105	1904	16,804,372	70
1865	4,784,713	101	1905	18,396,451	72
1866	4,750,847	102	1906	19,471,080	77
1867	4,746,009	100	1907	19,977,260	80
1868	4,784,712	99	1908	21,422,244	73
1869	4,789,550	98	1909	21,965,111	74
1870	4,770,198	96	1910	22,022,180	78
1871	4,702,467	100	1911	22,384,313	80
1872	4,586,357	109	1912	22,549,335	85
1873	4,653,675	111	1913	22,248,331	85
1874	4,390,023	102	1914	21,244,880	85
1875	4,716,563	96	1915	22,678,191	108
1876	5,016,488	95	1916	21,974,839	136
1877	5,512,196	94	1917	20,294,304	175
1878	5,761,114	87	1918	18,563,157	192
1879	5,262,174	83	1919	17,698,184	206
1880	5,148,880	88	1920	16,303,306	251
1881	4,983,742	85	1921	15,974,962	155
1882	4,934,086	84	1922	15,451,945	131
1883	4,614,588	82	1923	17,790,765	129
1884	4,921,169	76	1924	19,031,001	139
1885	5,245,572	72	1925	19,025,942	136
1886	5,135,679	69	1926	19,349,118	126
1887	5,116,861	68	1927	19,431,194	122
1888	5,330,775	70	1928	19,674,638	120
1889	5,973,790	72			

Despite the extent of the economic changes, which had occurred during the four centuries included in our survey, each substantial increase in the supply of the precious metals appears to have been followed by a rise in the general level of prices. Before we draw any conclusions it is, however, necessary that we analyze the evidences more carefully. So long as we speak of broad generalities our conclusions must be of the same kind, which is by no means satisfactory. To point out, as many writers have done, that the supply of gold in the world is so large that the annual production of gold has no effect upon the general level of prices, save in the case of an exceptionally large annual output, is to avoid the question. At what point does the annual gold production become large enough to influence price levels? Is a certain level of annual production necessary to maintain a stable price level? It is this latter question which assumes primary importance, for, by answering it, we shall be in a position to know whether the gold output in any given year is less, or greater, than the amount necessary to maintain prices at their previous level.

The Normal Supply of Gold.—Professor Cassel has given very careful study to this problem.[6] From an observation of Sauerbeck's index of wholesale prices, it is apparent that the price level in 1910 was practically the same as it had been in 1850. During the intervening sixty years, there had occurred two periods of rising prices and one of falling prices; gold production had varied considerably; the economic organization of the world had grown by rapid strides, and population had increased to higher levels than ever before. It had been a period of sharp business fluctuations, but, on the whole, there had been a steady and continuous economic development throughout the world and, since the price level was the same in 1910 as it had been in 1850, Cassel assumed that the total production of gold during the period was just sufficient to

[6] Gustav Cassel, *Theory of Social Economy*, pp. 441–454.

maintain stable prices in the face of the economic development which had occurred. If this were so, and if the total production of gold had been spread proportionately over each year of the period, then the general level of prices should have remained constant.

The total gold supply of the world is estimated to have been approximately $2½ billions in 1850, while by 1910 it had increased to $13 billions. The stock of gold had thus been multiplied by 5.2 during the sixty-year period, which means that, on an average, it had increased each year at the rate of 2.79% *compound interest*. It is necessary, however, to make an allowance of .2% of the stock of gold each year for the loss of gold through abrasion, chemical processes, etc., so that, in order to maintain stability in the general level of prices, Professor Cassel suggests that an annual gold production equal to 3% of the stock of gold at the beginning of the year is necessary. Having arrived at this conclusion, he compares the actual rate of gold production each year with the normal rate of output which is required by the necessity for a 3% annual increase. Dividing the actual gold production by the normal gold production, he expresses the result as a percentage index of *relative gold supply*. If this index of relative gold supply is compared to the index of prices throughout the period, a remarkable correlation is apparent, which tends to prove that when the actual output of gold was greater than the required normal, prices actually rose, while in periods when the actual output was less than normal prices fell.

On the basis of this study Professor Cassel suggests that the deviation of the actual supply of gold from the calculated normal supply is the chief cause of long-term fluctuations in the price level. The suggestion that the annual production of gold must equal 3% of the existing stock has become a general catchword during these post-war days, and has been used as the foundation for a rather pessimistic philosophy as to the future movements of the general price level.

The Post-War Period.—In analyzing the situation during the period that has elapsed between 1913 and 1928, it will be more serviceable to confine ourselves to that portion of the stock of gold which is used for monetary purposes, rather than to speak in terms of the total world stock of metallic gold. Broadly speaking, we may divide the demand for metallic gold into two parts. On the one hand, we have the use of the metal in the industrial arts for purposes of decoration, jewelry, ornamentation, and dentistry, while, on the other hand, we have the demand for gold to serve monetary purposes. But this monetary demand itself needs subdivision. It is composed partly of a demand for circulating coin and bank reserves, and partly of a demand for gold to be hoarded by the peasant population of China, India, and Egypt. Gold which is hoarded has probably served a monetary purpose, and may do so again if at some future time it is withdrawn from the hoard and exchanged for goods, but so long as it is hoarded it is very definitely withdrawn from the world's effective stock of monetary gold.

In the case of monetary gold, moreover, the allowance of .2% made by Professor Cassel for abrasion and other losses seems much too high. As we have already seen, gold coin no longer circulates in the majority of countries, while in some gold is not minted at all, but is held in the form of bars. The annual loss from abrasion, and other causes, must therefore be very small in the case of monetary gold; probably it is substantially less than .1%, and it seems better to ignore it altogether in the following discussion.

The average annual production of new gold during the period from 1913 to 1928 was approximately $392 millions. Of this supply it is estimated[7] that $97 millions was annually absorbed into the hoards of India, China, and, to some extent, Egypt; $173 millions was used each year in the industrial arts; and approximately $122 millions was annually available for

[7] L. Edie, *Capital, the Money Market and Gold*, p. 22–35.

monetary purposes. Since the world *monetary* stock of gold in 1913 is estimated by Professor Edie to have been somewhat less than $9 billions (Table VII), the annual increase has been at the rate of 1.2% compound interest during the period in question.

TABLE VII. ESTIMATES OF THE WORLD STOCK OF MONETARY GOLD[7]

	Director of U. S. Mint	Joseph Kitchin	L. D. Edie
1913....	$7,674m.	$7,728m.	$8,781m.
1928....	9,579m.	10,731m.	9,854m.

A Scarcity of Gold?—Should we accept the figures of Mr. Kitchin, or those of the Director of the U. S. Mint, the situation would be sufficiently alarming. But Professor Edie has given adequate reasons to show that these estimates tend to optimism. Whether or not we accept the 3% per annum of Professor Cassel, or the 2.7% which Professor Edie suggests, is unimportant. The annual increase in the supply of gold during the sixty years before the war was between 2.5% and 3%, and there is no reason to suppose that the economic developments of the next ten years will be satisfied with any smaller increase in the stock of money than that which was necessary before the war. Yet the additions to the world's stock of monetary gold during the last fifteen years have been at a rate of much less than 2% per annum—and there have been many people who have foreseen a continuous and substantial fall in commodity prices during the next decade.

But the picture is not as black as it is sometimes painted. The study made by Professor Cassel was strictly limited to the period from 1850–1910, and he points out that, "to apply these results to the future is only possible on the assumption that the demand for gold develops as it has done during the

[7] L. Edie, *Capital, the Money Market and Gold*, p. 22–35.

period in question. But we must point out that it is possible that the experiences of the Great War may considerably modify our idea of the importance of gold, especially as regards its circulation and the great central reserves."[8] Now the last half of the nineteenth century was a period of unprecedented industrial expansion. It witnessed the industrial revolutions of both Germany and the United States, and was characterized by a tremendous economic development. Africa was partitioned, spheres of influence were established by the great powers in China, and in all parts of the world the economic exploitation of natural resources was conducted with unprecedented thoroughness. But, as we noticed in an earlier chapter, one of the most stable things during these years was the conception of the gold standard. There were some changes in the banking system of the world, credit was used to a greater extent, and the use of convertible paper money as a medium of exchange was increasing—but the monetary system of the world remained firmly attached to gold. There was, therefore, a close connection between the general level of prices and the production of gold.

Our conception of the gold standard since 1920 is somewhat different, however, as we have already seen. The war has very definitely broken the continuity of monetary institutions, and, if the results derived from the study of the earlier period are to be true of the post-war years, two conditions must be observed, viz.:

1. There must be a relative fixity of the various kinds of demand for gold; and,
2. The monetary system must continue such that the aggregate supply of purchasing power varies proportionately to the amount of gold.

These two assumptions were true of the nineteenth century —but will they continue to hold good? In regard to the various demands for gold, it is clear that the monetary demand

[8] Gustav Cassel, *Theory of Social Economy*, p. 454.

will tend to be reduced somewhat by the disappearance of a circulating gold coinage, and there are evidences of an increased use of gold in the industrial arts. It is possible, therefore, although no definite statement can yet be made, that the monetary demand for gold will be reduced in proportion to the other demands.

It is, however, in regard to the relationship between the amount of gold and the total quantity of purchasing power that the greatest change has taken place. Generally speaking, the gold reserves today represent a smaller percentage of the total volume of money than they did before the war, and there is very much less fixity in the proportion. Indeed there has recently been a great deal of discussion of methods by which gold can be economized, i.e., a greater quantity of purchasing power be built upon a smaller foundation of gold. The idea of a definite relationship between gold and purchasing power, which was so characteristic of the pre-war decades, is much less in evidence today. It is true that the present is an age of reconstruction, and many economic institutions are in a state of flux. Perhaps, in some future time, there will again be recognized a definite relationship between the supply of gold and the total amount of money in circulation, but today there are no evidences of such a recognition—and there is a substantial body of evidence pointing in the other direction. Indeed the modern tendency seems to be an attempt to make the supply of gold adapt itself to the volume of money rather than the reverse. To this end there have been proposed various international arrangements, which are discussed in a later chapter, as well as definite plans for controlling both the supply of gold, and the demand for it.

Controlling Gold in Regard to Prices.—Turning first to the study of the supply of gold, Professor Lehfeldt[9] has suggested that the annual production of the gold mines should

[9] R. A. Lehfeldt, *Gold Prices and the Witwatersrand; Restoration of the World's Currencies.*

be definitely controlled, so that it might be equated to the monetary demand. He suggests that there should be set up an international syndicate, possibly affiliated in some fashion with the League of Nations, which should be financed by the governments of all the larger commercial countries. The syndicate would set out to acquire control of all the gold mines in the world by means of the purchase of their securities on the stock exchange; and having acquired this control, it would regulate the production of gold in such a way as to stabilize its value, in terms of goods in general. Any profits that were made would be distributed among the participating nations in proportion to their financial interest in the syndicate, while any losses, due for example to the operation of unprofitable mines, would be shared in the same way. By this method it is hoped to prevent all fluctuations in the commodity-value of gold, or expressing the same thought in another fashion, to stabilize the general price level of all countries on a gold standard.

On the side of demand, another eminent economist has suggested that the commodity-value of gold might be stabilized through a variation in the demand for monetary gold. In its original form, Professor Fisher's plan[10] was designed to remedy any rise in prices by increasing the gold content of the dollar, and to meet any fall in the general level of prices by decreasing the weight of the gold dollar. The general level of prices would be measured by an index number, and any tendency of the price level to depart from normal would be remedied by a variation in the weight of the dollar. The change in the weight of the coinage would presumably affect the monetary demand for gold, and would be designed to stabilize its value in terms of commodities.

Both of these plans are very interesting, and a great deal of tribute is especially due to Professor Fisher for his tireless efforts to make the world aware of the necessity for a mone-

[10] Irving Fisher, *Purchasing Power of Money*, 1911. Later statements of the plan are somewhat different, as shown in *The Money Illusion*, 1929.

tary standard that should really possess the attribute of stability. Both plans tend to miss the major point, however. The value of money is determined by the quantity of money in existence, and the willingness of people to hold stocks of that money. But "money" and "gold" are not synonymous terms, for, as we have already seen, gold represents only a small part of the total volume of money in the majority of countries today. A change in the total quantity of bank credit, or a change in the desire of people to hold stocks of money, will have just as much effect upon the general level of prices as will a change in the total amount of monetary gold. Gold is today only one of a large number of factors which influence the general level of prices, and there are many reasons for suggesting that it is rapidly tending to decrease in importance. Conscious control of the supply of purchasing power is increasing in importance, but that control is not likely to be exercised through the supply of metallic gold, nor through the demand for it. We are therefore in a situation where the value of money, in the broadest sense, determines the value of gold, since in a gold standard country the monetary unit and a fixed weight of gold bullion are the same thing. The causative factor is, however, money in the widest sense, and not metallic gold!

Suggestions for Further Reading

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CHAPTER 8

THE NATURE AND FUNCTIONS OF CREDIT

In pointing out to his readers that the world has now become a credit economy, Mr. Wingfield-Stratford takes occasion to suggest that, "credit, as the name implies, is nothing more nor less than faith; and faith, on the stock exchange no less than before the altar, is the substance of things hoped for, the evidence of things not seen."[1] The suggestion is a good one. We are surrounded in our everyday life by credit, in all of its innumerable manifestations, yet probably there are few things that are as little understood. In the first place, we often fall into the habit of confusing credit itself with the written instruments in which a previous credit contract is embodied. But credit is not a bank check, or a bill of exchange. These are tangible contracts which express definitely, and permanently, the nature of the credit contract which they enshrine, while credit is rather an intangible conception which is less readily perceived.

The popular confusion of thought on this subject must, in some measure, be laid at the door of the many writers on the subject who have tended, through different interpretations of credit, to offer many definitions which appear at first sight to contradict one another. In the first place, there have been some who have confused the power to obtain credit with the thing itself. Thus Bullock writes that, "credit may be defined as *the power* to secure commodities or services at the present time in return for some equivalent promised at a future time"—an idea which tends to be perpetuated in the contemporary phrase so often used by bankers, "a line of

[1] *History of British Civilization*, Vol. II, p. 651.

credit." A line of credit is not necessarily credit at all; it is merely the result of an arrangement between a bank and its customer, under the terms of which the latter is entitled to receive credit up to the agreed amount, at any time during the immediate future.

The Elements of Credit.—Apart from this confusion, there has been a tendency for individual writers to stress in particular one of the several elements which are to be found in a credit contract. Briefly the most important among these elements are:

1. The element of time
2. The element of confidence
3. The element of legal obligation

Knies has defined credit as, "exchange in which one party renders a service in the present, while the return by the other falls in the future."[2] Clearly, *time* is of fundamental importance in any credit transaction. If A purchases a pair of shoes, for which he offers $15 in gold and silver coins, we do not call that a credit transaction. But if A should go to his shoemaker to obtain a pair of shoes, and the shoemaker should give him the shoes at once and send him the bill at the beginning of the following month, credit would clearly have been extended. The exchange of one commodity for another, or the exchange of a commodity for metallic coin, constitutes complete exchange, but, with the postponement of one part of the exchange, it is clear that the transaction is incomplete, and that the seller is in fact lending the shoes to the buyer until such time as the latter shall have paid the bill. The essential characteristic of credit is *the immediate acquisition of something in return for a promise to pay in the future.*

When money has come into being, and is widely recognized as both a standard of value and a medium of exchange, it is

[2] A good symposium of definitions of credit is given in H. P. Willis and G. W. Edwards, *Banking and Business*, Appendix I.

convenient that credit contracts should be in terms of money. If I should obtain possession of a sheep today, in return for a promise to return a sheep six months hence, the arrangement would obviously constitute a credit transaction. It would, however, be one which would possibly cause a great deal of trouble and ill-feeling when it comes to be completed, because one sheep varies from another very considerably, and it may happen that the grantor of the credit will feel that the sheep which he is receiving is greatly inferior to that which he originally gave. Moreover, it is very probable that the creditor is not at all sure, when he enters into the contract, of the actual commodities that he will need when the contract is terminated. For both of these reasons, therefore, it will be to the advantage of the creditor to have the credit contract expressed in terms of money, so that its value may be definite, and also in order that he may receive back his wealth in a form which is readily exchangeable for the commodities he desires. For these reasons the wide use of credit has waited upon the development of a monetary system in which the standard of value is comparatively stable in normal times.

Time is not, however, the only element in credit. Nasse, for instance, defines it as, "the *confidence* felt in the future solvency of a person, which enables him to obtain the property of others for use as a loan." Confidence is vital to credit, for obviously no man will lend to another unless he believes that the borrower will fulfil his promise to return an equivalent amount at some future time. Yet it would seem that confidence is necessarily dependent upon the time element; in the case of an exchange which is immediately completed no confidence is necessary. In the case of any contract which calls for performance in the future, confidence is implicitly a basic element, but it does not appear worthy of special notice as the primary factor in the granting of credit.

Finally, there are a few writers who have tended to emphasize the nature of the contract itself, giving special attention

to the legal possibility of its enforcement. MacLeod suggests that, "credit is the present right to a future payment, and is therefore the right or property of demanding something from someone else." This, of course, is true. In the actual business of the modern world, if the confidence of the lender in the borrower proves to have been unjustified, there is generally a recognition of his right to demand payment with all the support that he can muster from the community. Today the right of a lender to repayment is recognized by the law, and may be enforced in the courts, but this was not always the case. For many centuries it was held that "money is essentially unproductive," and that "anyone who demands fruits from it sins not only against the positive commandments of divine and secular law, but also against the nature of things." In those days the only sanction which the lender could bring to bear was a moral one, and even today there is no doubt that the moral code of the business world is still a powerful factor in regard to the fulfilment of credit obligations. To a merchant, the loss of his high reputation if he should default, or even prove dilatory, in meeting his commitments, is apt to be an even more powerful influence than the realization that such a default could bring him into court. In any case the nature of the contract, while it is of importance, cannot claim to be the feature most worthy of consideration. The important element is, as has already been suggested, that of futurity.

The Basis of Credit.—The discussion of the various elements of the credit contract which have been emphasized from time to time is nevertheless of considerable value. The question is frequently raised as to what is the basis of credit; why is it that one individual can obtain credit when another cannot? No simple answer can be given to this question, because there is no single factor upon which the granting of credit is determined; nor is there any value in an abstract argumentation as to which of the several elements in any given case is of

the greatest importance. A better way of tackling the problem is by listing as follows the various factors which are taken into account by the credit man, who is charged with the duty of deciding whether or not credit shall be granted in a given instance:

FACTORS ENTERING INTO THE DECISION TO GRANT OR REFUSE CREDIT

RELATING TO THE BORROWER

1. Record for honest dealing
2. Personal habits:
   a. Religious affiliations
   b. Clubs and societies
   c. Style of living
   d. Hobbies or other interests
   e. Gambling, drinking and other such habits
3. Ability:
   a. Age and experience
   b. Shrewdness and common sense
   c. Success in this line of business
   d. Success in other lines of business

RELATING TO HIS BUSINESS

1. The financial statement:
   a. Ratio of quick assets to current liabilities
   b. Ratio of merchandise to accounts and notes receivable
   c. Ratio of net worth to fixed assets
   d. Ratio of net worth to debt
   e. Ratio of total sales to receivables
   f. Ratio of total sales to stock of merchandise
   g. Ratio of total sales to net worth
   h. Ratio of total sales to fixed assets
2. Other factors:
   a. Location of the business and nature of the competition
   b. Condition of this business in regard to other businesses in the same line of activity.

Recent years have witnessed a great deal of progress in the development of credit-granting as a routine process. Not very long ago, no longer in fact than the beginning of the present century, the greater influence tended to be placed on the left-hand side of the above statement. Credit was granted on the character of the applicant, which may be better interpreted by saying that a man was able to obtain credit with greater facility when the lender was well acquainted with him. Credit was all too frequently a matter of friendship. This, of course, is not intended to underestimate the importance of character, because no man will be willing to extend credit to one whom he knows to be dishonest, or to be addicted to habits which

may make him forget that honesty is the best policy. Nor is it intended to deny the fact that the two sides of the statement are closely connected with each other, for it is apparent that a man who is honest and experienced in business, who has been conscientious in his dealings and successful in his business career, will be apt to have a business which meets all of the required tests very much more satisfactorily than would the business of a man who failed to measure up to the generally accepted standards on the side of character. The two are very closely related, and it has often been suggested that they are, in some respects, complementary. The soundness of a man's character is said to measure his *willingness* to pay, while his *ability* to pay is estimated on the basis of the condition of his business. Expressing this graphically we might say:

CREDIT	is based on	CONFIDENCE in	CHARACTER (Willingness to pay) / CAPACITY (Ability to pay)	as shown in	The past record and present condition of the business

The elements of Confidence, Capacity, and Character may commend themselves to those with a flair for alliteration, but it is apparent that, if we continue our investigation beyond them, we come at last to the business itself. Modern credit procedure is tending to concern itself more and more with the condition of the business, and the analysis of financial statements, therefore, tends to become the most important part of the investigation of the worthiness of a given borrower. This is not the place at which to enter upon a long discussion of the subject of credit analysis, but we may point out that financial statements are becoming more and more standardized, and in the same degree the analysis of them is tending to become more of a routine process. In the preceding table there are listed on the right-hand side the more important of the ratios by means of which the financial statement is tested,

and while other ratios have been suggested from time to time, those which have been listed are today most frequently used.

The implications of this change in the methods of extending credit are very important. To the extent to which the modern method is adopted, the granting of credit ceases to be a highly personal transaction, depending upon the relationship between the two parties and subject to psychological attractions and prejudices. Instead, it tends to become a routine process, by which an individual automatically receives credit when he shows himself to be the owner of certain kinds of property, and can demonstrate that he desires to use the credit in some acceptable economic undertaking. To a much greater extent than was previously the case, we can say that credit tends to be based upon economic goods; and parenthetically it may be suggested that this is due, in part at least, to a raising of the general standard of business ethics, which has made a close study of character less important than it was half a century ago.

Kinds of Credit.—It follows from our conception of credit that it will enter into a large number of business transactions of widely different kinds. A manufacturer borrows $100,000 to erect an extension to his factory; a government borrows $1,000,000,000 to meet the expenses of a war; an individual purchases an automobile to be paid for in monthly instalments; a retailer obtains a consignment of goods on condition that he will pay for them at the end of thirty days—all of these and innumerable other transactions involve the use of credit. Our understanding of credit will therefore be clarified if we can set up some criterion by which to divide it into smaller, and more homogeneous, groups.

But here we are faced with a new problem, for credit can be classified in as many ways as there are standards by which to classify it. Taking the length of time for which the credit is outstanding, we should have *long-term* and *short-term* credit.

Alternatively, we might classify credit transactions on the basis of whether or not the lender received some security in addition to the promise of the borrower to pay. In this case we should have *secured credit* and *unsecured credit.* These and many other classifications are used for various purposes in the modern world, but generally speaking the three standards by which credit is most generally classified are:

1. According to the borrower;
2. According to the lender; and
3. According to the purpose for which the credit is obtained.

If we classify the various kinds of credit in actual use according to *the nature of the borrower,* we should obtain the following classification:

1. Public credit;
2. Mercantile credit;
3. Personal credit;
4. Bank credit; and
5. Construction credit.

Public credit consists of the amounts borrowed by the national governments, or by subsidiary political authorities, such as the governments of counties or cities. It is composed of long-term bond issues, as well as temporary borrowings in anticipation of tax receipts, and is used for a wide variety of purposes that may range from the conduct of a war to the building of a new school. *Mercantile credit* consists of that which is borrowed by merchants for the normal conduct of their business, being in the majority of cases short-term credit which is used for the purpose of purchasing supplies and which will be repaid out of the proceeds of the sale of those goods. *Personal credit* represents the aggregate borrowings of individuals for all purposes, although in the majority of cases it is probable that the funds are spent on goods for direct consumption. *Bank credit,* according to this classification, would include the funds borrowed by the banking institutions and

would consist largely of deposit account balances; and finally, *construction* credit would comprise the aggregate borrowings of those who were engaged in the supplying of the plant and equipment of industry.

Similarly, if we should classify credit according to the *nature of the lender,* there would be three general groups, viz.:

1. Bank credit;
2. Mercantile credit; and
3. Individual credit.

Little explanation is necessary in the case of this classification. It is apparent that *bank credit* and *individual credit* indicate respectively the aggregate amount of funds that have been advanced by banks or individuals. In the majority of cases these advances will occur in the form of money, and will take the form, either of a direct loan of a certain amount of money, or of the purchase of corporate securities and commercial paper. *Mercantile credit,* on the other hand, represents the aggregate amount of credit advanced by business houses to their customers. In general, such transactions will have occurred through the sale of goods, which are to be paid for at some time in the future; i.e., the advance will be made in the form of goods and the repayment will be in the form of money.

These classifications of credit are as useful as the criteria by which they are made. They are of service to distinguish the several kinds of credit transaction when we wish to know who is the lender, or who is the borrower. In general, however, their significance is less important than that of the third classification. It is also necessary to suggest that the various kinds of credit are frequently grouped without reference to any particular criterion, so that in using any of the above terms to describe a given type of credit it is highly important that the term be clearly defined, or that the standard by which the classification is made should be obvious. Thus

in general parlance bank credit is usually understood to mean credit *loaned* by a bank, and mercantile credit is funds *advanced* by a business house—while individual or personal credit is understood to mean the *borrowings* of the individual.

From the viewpoint of the financial system, however, the classification of credit in accordance with the *use to which the funds are put* is infinitely more important. By this standard we should divide credit into:

1. Investment credit;
2. Commercial credit; and
3. Consumptive credit.

Investment credit consists of advances which have been made to a business to enable it to build up the necessary plant and equipment, and to supply the necessary margin of working capital. The funds are contributed for comparatively long periods of time, since they are invested in forms of capital which the business expects to use continually until they are worn out or rendered obsolete, and in the majority of cases this kind of credit will be represented by long-term securities. *Commercial credit,* on the other hand, is used to conduct the daily operations of the business. The assumption is that the commodities, or the funds, received by the business are to be used in such a manner that the loan can be repaid in the near future out of the proceeds of current transactions. For that reason the credit runs for relatively short terms, and if it is expressed in writing at all, it will be as a bill of exchange or promissory note. *Consumptive credit* is that which is obtained for the purposes of individual consumption. It has, in the past, been generally assumed that consumptive credit was relatively unimportant when compared to either of the first two classes of credit. No aggregate figures are available to show the relative amounts of these three groups, but it is apparent from the rapid development of instalment selling in many lines of business that the total volume of consumptive credit is

becoming very substantial. Automobiles have long been financed in this way, and the method has been adopted by dealers in almost every kind of commodity from furniture and houses to clothing and jewelry. There are, moreover, distinct signs that the expansion in the volume of consumptive credit is by no means a passing phenomenon, so that this class is distinctly worthy to take its place beside the other two items in the classification. Since consumptive credit is devoted to a variety of uses, varying from the building of a house to the purchase of a pair of gloves from a department store, it follows that the duration of the credit will vary according to the nature of the transaction. On the whole, however, short-term credit tends to predominate in this field, and when the credit contract is reduced to writing it is generally in the form of a promissory note.

Functions of Credit.—The function which is most generally recognized, in regard to all kinds of credit, is that of facilitating the process of exchange. We have already pointed out that, when the credit contract is reduced to writing, the resulting credit instrument often serves directly as a medium of exchange. In the case of paper money issued by a government, and of the notes of certain banks, the credit instrument is included under the heading of common money because of its general acceptability within the community; while in the more general case of checks drawn upon a bank, or of bills of exchange in the case of international trade, the credit instrument serves as particular money, being accepted only in case the person primarily liable is recognized by the recipient. But credit also facilitates exchange in another way. When used continuously, or for very large transactions, metallic money, or even common paper money, is apt to become cumbersome and inconvenient. If, during a period of three months, merchant A is buying considerable quantities of goods from merchant B, who in his turn is also a purchaser from A of other com-

modities, it will clearly be a convenience if the various transactions should be entered in an account, where they can be set off against one another, so that at the end of the period it will only be necessary to use common money to settle the net balance which is owing by one to the other. Even when A is the seller in all transactions, as in the case of the charge account which a department store opens for its customer, there is an obvious convenience in settling for all of the transactions at one time. In both cases there is an economy of common money, because the individuals do not need to carry as large an average stock of it, while the obvious convenience of the plan tends to facilitate very considerably the exchange of goods.

In the second place, credit increases the efficiency of production. Since credit is merely the acquisition of goods in the present in return for a promise to pay in the future, it is apparent that an increase in the quantity of credit within a country will not constitute an increase in the wealth of that country. As Professor Soddy has emphatically demonstrated,[3] it is absurd to regard a country as wealthier because the inhabitants have lent several billions of dollars to a government that has immediately used the funds for purposes such as belligerent activities which destroy wealth rather than create it. Although there is a good deal of popular confusion on this point, because of the fact that to a creditor the evidences of debt which he holds are undoubtedly wealth, it is clear that we cannot include those evidences of debt when we are estimating the total wealth of a nation. Once again it is necessary to remember that wealth consists of a stock of useful goods, which is not immediately increased by any expansion in the volume of credit. But, despite this fact, the volume of credit is very closely related to the stock of wealth for, as John Stuart Mill pointed out, "although the production funds of

[3] Soddy, *Wealth, Virtual Wealth and Debt.*

the country are not increased by credit, they are called into a more complete state of productive activity."[4]

From the very fact that the lender is willing to allow another the use of his wealth, at a price which the latter feels it worth while for him to pay, we can assume that the borrower will use that wealth more productively than would the lender. To the latter the usefulness of his property is measured by the 6% which he receives as interest, but the borrower would not desire to use the funds unless he were confident that the income derived from their use would leave him a satisfactory margin, over and above the amount which he is obliged to pay to the creditor. This consideration is demonstrated by the experience of the business world. Through the use of credit the modern corporation is enabled to obtain those forms of wealth which it needs. The fixed capital is provided by funds which are borrowed for long periods, and invested in the particular kind of equipment desired; additional funds are obtained as short-term loans from the banks or from merchandise creditors. By concentrating the wealth, obtained through these credit transactions, in the hands of those who are able to use it most effectively, the income of the community in terms of commodities and services is greatly increased; and, as it is probable that some part of this enlarged income will be in a comparatively permanent form (such as a railroad or a steamship), while a part of that which is in less permanent form will be used as capital to increase production in the future, it is clear that the ultimate result of the use of credit is to increase the economic wealth of the community. This result will follow naturally, unless credit in large amounts has been extended to those whose anticipations are not fulfilled. In this case that portion of the wealth of the community which is obtained by such borrowers may prove entirely unproductive, and will then represent a net decrease in the communal wealth. But failures in business are, by the very nature of

[4] J. S. Mill, *Principles of Political Economy*, Bk. III, Ch. XI.

things, less important than successess, and those failures in which the wealth devoted to production is utterly lost are very rare indeed. We may, therefore, safely attribute the growth in the economic wealth of this country during the last half-century, in a very large measure, to the expansion in the volume of credit, and to the wider use of credit in all types of business transactions.

Moreover, it may be suggested that the use of credit to facilitate exchange reacts very favorably upon production. The increasing tendency to use credit as a means by which the buyer is enabled to obtain immediate possession of goods, which will be paid for at some future time, has enabled industry to dispose of its products at a steadier rate. This has been particularly true of international trade during the post-war period. If the United States desired to dispose of its goods in the foreign market, it was often necessary to grant long-term credits to the foreigner, who could not pay until ample time had been given him to rehabilitate the economic organization of his country which had suffered from the ravages of war.

Suggestions for Further Reading

Holdsworth, J. T. Money and Banking. D. Appleton & Co., 1928, Ch. VIII.

Kilborne, R. Principles of Money and Banking. A. W. Shaw Co., 1927, Ch. XVIII.

Moulton, H. G. Financial Organization of Society. University of Chicago Press, 1925, Ch. VII.

CHAPTER 9

CREDIT INSTRUMENTS

Credit, as was shown in the last chapter, need not be embodied in a written contract. Indeed, there are today many classes of credit operation conducted on a purely oral basis, of which the most common example is, probably, the case in which an individual purchases an article in a store and has it charged to his account until the end of the month. There are, however, certain obvious advantages which accrue from the reduction of the credit contract to writing. In the first place, human memory is sometimes weak, and the two parties to a verbal contract may easily disagree as to the nature of the fulfilment of the contract. Whereas a verbal arrangement is vague and indefinite, a written contract is definite as to its terms, and comparatively permanent in nature—a factor which grows more important as the duration of the contract increases. In the second place, a written contract can be transferred to a third party if the need should arise. If A verbally agrees to pay B the sum of a hundred dollars at some future time, it would be difficult, if not impossible, for B to obtain immediate funds from C in exchange for A's undertaking to pay. The whole arrangement would be too uncertain. But if A's promise is written, and signed, it would be a simple matter to transfer it to any third party in exchange for immediate cash.

Broadly speaking, we can divide credit instruments into two groups—*investment credit instruments* and *commercial credit instruments.* This does not in any way reflect upon the relative importance of consumptive credit, but merely indicates the fact that the type of contract used in that field does not

differ in any material way from the instruments used in the other fields.

Commercial Credit Instruments.—Commercial credit instruments are frequently divided into three groups, open book accounts, promissory notes, and bills of exchange. It is very doubtful, however, whether we should include *open book accounts* in the category of credit instruments, because they cannot be said to constitute a clear statement of the credit transaction, to which the debtor has given his assent. In the majority of cases the open book account is nothing more than a series of entries in the ledger of the creditor, showing that on certain dates the debtor purchased specified quantities of goods, for which payment has not yet been made. When this evidence is used for the purpose of collecting the debt, it becomes necessary to prove that the debtor actually received the goods, and in practice the difficulties are very nearly as great as those which would occur in the attempt to enforce an oral credit contract. Despite this fact, the open book account is the only evidence of a large number of credit contracts, which are daily negotiated in the course of business dealings, and of recent years there have grown up a series of financial institutions which advance money against accounts receivable. The open book account is, therefore, in some measure transferable, and it is impossible to exclude it entirely from the category of credit instruments. But, even while we include it, we must remember that it suffers from several disadvantages when it is compared to the promissory note or the bill of exchange.

Promissory Note.—According to the Uniform Negotiable Instruments Act, a *promissory note* is "an unconditional promise in writing, signed by the maker, engaging to pay on demand, or at a fixed or determinable future time, a certain sum in money to, or to the order of, a specified person or to bearer." This definition is helpful to us, because of the fact

that it sets out clearly the conditions which must be satisfied by this type of credit instrument.

1. It must be in writing;
2. It must be signed;
3. It must be an unconditional promise;
4. It must specify a definite sum of money;
5. It must be negotiable, i.e., it must be payable "to order" or "to bearer";
6. The time of payment must be definite.

Any credit contract which does not meet all of these tests will not receive the special advantages conferred by law upon negotiable instruments. A contract to deliver a thousand bushels of wheat would not be a promissory note because it is not an obligation to pay money; a promise to pay half of one's

$ 10,000 00/100 New York, January 1, 1930

Sixty days after date I promise to pay to the Order of William Johnson

The sum of Ten Thousand and 00/100 Dollars

Due March 2, 1930 Thomas Jones

Promissory Note.

income during the next calendar year would not relate to a "certain sum of money"; a promise to pay on the date of arrival of a vessel would be neither unconditional nor definite as to time; and the same reasons would exclude from this category a promise "to pay William Jones on the occasion of his marriage." A contract to pay a certain sum "to Richard Jackson" would also be excluded because of the absence of the words of negotiability.

Although the law requires that a promissory note shall be

in writing, no form is specified. The note may be written in ink or pencil, or it may be partly printed and partly written. The signature also may be a full signature, or it may consist of the initials only. All that is necessary is that the intention of the maker shall be clear, but in actual practice some such form as the one shown on page 123 is generally used.

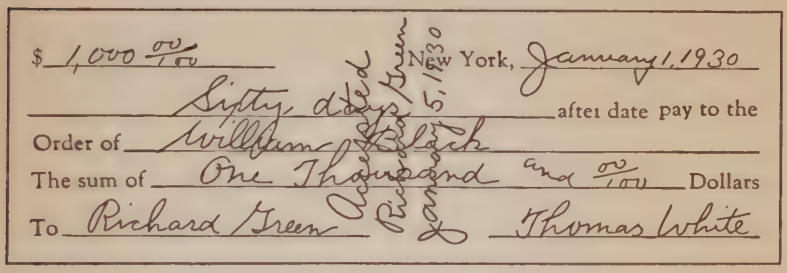
The said note would be classified by some writers as *double-name paper* because two names appear on it, Johnson (the payee), who will later endorse the note, and Jones (the maker). If the maker had made the note payable to the order of himself and endorsed it in blank, i.e., signed his name on the back, then only one signature would have appeared on the instrument and it would have been *single-name paper,* payable to the party actually in possession of it. For many years business practice in the United States has avoided double-name paper in all cases, excepting those in which a purchaser of goods has been so weak in his credit standing that the seller has felt unable to let him have the goods on open book account. For that reason single-name paper is sometimes thought to possess a higher credit standing in the United States, where promissory notes are used to a greater extent than in most countries, but in actual practice this distinction is tending to become obsolete.

Although not generally regarded as such, the most widely known form of promissory note consists of the obligations of governments or certain banks. Bank notes and government paper money are nothing but promises to pay to bearer on demand a specified sum of money in coin, generally gold, but they have become so much a part of our daily lives that in the public mind they are no longer thought of as credit instruments.

Bill of Exchange.—A *bill of exchange* is "an unconditional order in writing signed by the drawer, requiring the person to whom it is addressed to pay on demand, or at a fixed or deter-

minable future time, a certain sum in money to, or to the order of, a specified person, or to bearer." It will be noted that this definition is identical to that of a promissory note with the exception of one fact—the note is a *promise* whereas the bill of exchange is an *order*. With that important exception the two documents are identical, and the conditions which must be satisfied by a promissory note apply also in the case of a bill of exchange.

It is necessary, however, that the instrument should be a definite order, not merely a request, and although no definite form is specified, in general practice an instrument similar to the following example is used:



Bill of Exchange.

Since a bill of exchange is an order, there must be at least two parties, the *drawer* of the instrument (White) and the person who is ordered to pay, and is known as the *drawee* (Green). In the majority of cases the person who is to receive the money, known as the *payee* (Black) is a third party, although the drawer may order the money to be paid to himself.

If the bill is not to be paid immediately, and may pass through several hands during its life, it is desirable that some acknowledgment of liability should be made by the debtor. He does this by *accepting* the bill, in doing which he writes "Ac-

cepted" across the face of it and adds his signature and the date, thereby signifying that the order was rightly drawn upon him and that it is authentic in all its details.

Varieties of Bill of Exchange.—This form of credit instrument has a long and distinguished history. Distinct evidences of its use appear as early in the annals of civilization as the time of Hammurabi, and when we come to the period of the Roman Empire the bill of exchange was already a recognized form of credit instrument, which was regularly used in the transferring of wealth. But, although the bill may have been recognized by the merchants, its evolution was not free from a good deal of popular misapprehension. To take only a single instance, we find Jan Ympyn writing in 1543 that "as to bills, the common people here know very little. People fall foul of the merchants and yet wot (know) not what a bill is. Men hold the merchants for usurers, and sharper than Jews, whereas they should be praised; for without bills there can be no more trade than sea-going without water. Yet of course bills, like all else in the world, can be mishandled."

In the course of time, it is natural that the bill of exchange should have adapted itself to the many different kinds of credit transaction which it embodied, and the result is an amazing multiplicity of bills at the present time. In the first place, we have *time bills* and *demand bills* (*or sight drafts*), the former being payable at some future time, whereas sight drafts are payable immediately they are presented to the drawee. For this reason, drafts are never accepted. As in the case of the promissory note, we find one group of bills of exchange which have become a regular part of our daily life. The bank check is a sight draft drawn upon a banker, and must satisfy all the conditions necessary for a bill of exchange if it is to be valid. In the case of time bills, we may also note the fact that there is a growing tendency to make them payable on a certain date, rather than at a certain number of days after sight, or after

date. This practice removes all possibility of error in the determination of the date of maturity.

A totally different classification may be made on the basis of the domicile of the parties. When all the parties to a bill are resident in the same country, and the bill is payable in the currency of that country, it is a *domestic* bill of exchange: when these conditions are not satisfied, it is a *foreign* bill. In the case of foreign bills particularly, and to some extent in the case of domestic bills, an instrument drawn upon the debtor is inadequate. If a merchant in Shanghai sells silk to a New York merchant, it is probable that a bill of exchange drawn upon the New York company will not be very popular in the Far Eastern market, because the American concern is unknown there. This would make it practically impossible for the Chinese merchant to sell the bill, and obtain the immediate cash which he needs, and he may therefore refuse to grant credit to the American company unless they arrange to have him draw the bill upon a well-known bank in New York. The bank will be glad to perform this service for its customer, in return for a small fee, so that the bill of exchange when it has been accepted will constitute a *bank acceptance* rather than a *trade acceptance*. In such a case, the bank is willing to lend its name as acceptor, because of the fact that the bill thereby attains a higher credit standing than it would if accepted by a business concern, but the bank expects that the business concern, for whom it performs the service, will provide it with the necessary funds with which to meet the bill when it becomes due.

The practice of foreign trade has given rise to another possible standard of classification, which has been adopted to a moderate extent in the domestic business. Taking the above illustration, when the bill of exchange is drawn by the Shanghai merchant he cannot immediately present it to the New York bank for acceptance. Indeed, he will probably desire to sell the bill at once in order to obtain cash, but, since it is not accepted, there might be some question in the mind of a poten-

tial buyer as to its validity. To remove this difficulty, the Shanghai merchant will attach to the bill the invoice, bill of lading, and insurance policy covering the shipment of goods, so that the holder of the bill will have in his possession the documents of title to the goods. If the bank in New York should for any reason refuse to meet the bill, the holder can then reimburse himself out of the proceeds of the sale of the silk. Such a bill of exchange would be known as a *documentary bill,* to distinguish it from a *clean bill* unaccompanied by documents.

Despite the differences between promissory notes and bills of exchange, the two forms may be used to serve identically the same purpose. If Jones purchases $1,000 worth of goods from Brown, and payment is to be made at the end of three months, either form of instrument may be used to embody the transaction. If the purchaser takes the initiative, he will make out a promissory note and give it to the seller; if the latter takes the initiative, he will draw a bill of exchange upon the buyer. When the latter has accepted the bill, the seller holds an instrument by which the buyer acknowledges his liability to pay a definite sum at a fixed date, and the same would be true if he held a promissory note. Should he desire to dispose of the credit instrument, in exchange for immediate funds, he can dispose of either with almost equal facility. In brief, there is no aspect in regard to which one form of commercial credit instrument can be said to be better than the other, and the decision to use a promissory note or a bill of exchange will be governed entirely by matters of convenience and custom.

Negotiability.—In the above discussion we have insisted upon the precise legal nature of the promissory note and the bill of exchange, because of the fact that these are the only two instruments which, in the eyes of the law, are fully *negotiable.* From one viewpoint, we might suggest that the development of economic life has been closely linked to the possibility of

transferring wealth from one individual to another. In the communistic order of primitive society, private property was not recognized, and any transfer of wealth was impossible. With the passage of centuries and the recognition of private property, wealth came to possess the attribute of *salability*. But this method of transferring wealth is subject to many possible disadvantages. If A sells a horse to B, without any witnesses being present, and gives no bill of sale or receipt for the money received, B's title to the horse is very vague. If we assume that A were dishonest, he might claim that B had stolen the horse, and even if that were not the case B would be unable to keep the horse if it were later claimed by C, who showed proof that it had never belonged to A. The sale of property, unless accompanied by definite evidence of some kind, gives the buyer a title which is not proof against the seller, or against third parties.

This situation was remedied, to some extent, by the recognition of *transferability* as it is now understood in regard to certain contracts. If A transfers a share of stock to B, by indorsing it on the back of the certificate, then B has received a perfect title, so far as A is concerned, and the transferor is prevented from claiming any rights in the property at any future time. But the title acquired by the transferee is subject to all of the defects which existed in the title of the person from whom he obtained it. If it is later proved that A had no rights of ownership in the property, then B will also be without rights of ownership because he only obtained the rights which A possessed—no more and no less.

It is clear that no credit instrument could gain general acceptability in these circumstances. During the Middle Ages the merchants who attended the large fairs were faced with the same need that had presented itself to the early bankers of ancient times. To transport adequate amounts of metallic coin and specie was dangerous, and it would further have involved a waste of effort, since many transactions during a period of

time could be set off against one another, if only some convenient form of credit instrument were available which would give the holder a title that was free from any defects of which he could not be expected to know, and which gave him a right to sue in his own name although that name did not appear on the instrument. It was to meet this need, that the custom of the merchants recognized the quality of *negotiability* as inherent in certain credit instruments—a recognition which has subsequently come to be incorporated in the legal system of almost all the larger commercial nations. If A indorses a bill of exchange to B, then B obtains a perfect title to the instrument, provided he is "a holder for value, in good faith and without knowledge of any previous defect of title." In actual legal practice the title of the person who holds a negotiable instrument is subject to certain defects, such as forgery, but in many cases the person who receives a note (or a bill of exchange) for value and in good faith, may obtain a better title than the person from whom he received it.

Procedure in Regard to Negotiable Instruments.—This quality of negotiability is possessed to a certain extent by other types of credit instruments, but the only perfectly negotiable instruments are those above mentioned. To negotiate a bill of exchange or promissory note, the only necessity is indorsement, i.e., the holder must sign his name on the back of the instrument to show that he desires to transfer his property in the instrument to another. No special form of indorsement is necessary; the holder may write his signature only, he may write, "pay to the order of John Smith" (both of which are general indorsements), or he may indorse the instrument restrictively, as for instance, "pay to John Smith only." In the case of credit instruments which are payable to bearer, no indorsement is necessary since property in the instrument may be passed by the simple process of physical delivery. Even

when indorsement is unnecessary, however, the person receiving a credit instrument will usually prefer to have it indorsed, for the simple reason that all of the parties whose names appear on a credit instrument are liable for its payment.

To insure the liability of the various parties to a credit instrument—both those who are directly liable and also those who are contingently liable—it is necessary to observe the proper legal procedure. The holder of a bill of exchange must present it to the drawee as soon as possible, in order that the latter may accept it, and when the due date arrives the holder must present the bill to the acceptor on the day specified, and demand payment. In the case of a promissory note no acceptance is necessary, since the maker himself is promising to pay, but the same conditions must be observed as to the presentment of the credit instrument when it is due to be paid. If, for any reason, the maker of the note or the acceptor of the bill should refuse payment, when it has been properly demanded, the holder of the bill must *protest* it. This is a simple process of legal formality, by which a notary public presents the instrument and demands payment. If payment is again refused, the notary public makes a legal record of the fact, and the holder must immediately send to the indorsers (and the drawer in the case of a bill of exchange) notice of the fact that the instrument has been protested for non-payment. If this notice is not sent promptly, the indorsers will be relieved of liability for any loss occasioned by the delay, unless they have specifically waived their right to receive such notice. The holder of the instrument can then demand payment from any indorser, and each indorser can look to the previous indorsers to compensate him for any loss which he may suffer. In the long run, therefore, the liability rests upon the maker in the case of a note, and upon the drawer and drawee in the case of a bill, but there is a distinct advantage in the existing arrangement, in that it facilitates the collection by the holder of the amount due.

Investment Credit Instruments.—While the variety of investment credit instruments is even greater than that of commercial credit instruments, we can distinguish three broad groups, viz.:

1. Bonds;
2. Notes; and
3. Stocks (or shares).

A *bond* is an obligation, usually of a corporation, to pay a certain sum at a definite date in the future, and to pay interest at a fixed percentage at stated intervals during the period that must elapse before the bond matures. It is very similar in nature to the promissory note, but whereas the latter is usually issued for comparatively short periods, and in amounts suited to a large variety of individual transactions, bonds are issued with a face value of $1,000, $500, or $100, and each bond constitutes one of a series of similar obligations which may amount in the aggregate to several millions of dollars. In the case of the promissory note, the note is an individual unit for all purposes; but, in the case of a bond issue, the holder of an individual bond is merely one of a large group of creditors who are in identically the same position, and since in certain circumstances, such as the default of the debtor, it may be necessary to take steps to protect the interest of the creditors as a body, all of the bondholders would be involved. But it is manifestly impossible for thousands of individuals, who are scattered all over the world, to act in unison, so that in the case of a bond issue a specified financial institution is usually designated as trustee for the bondholders. Such a trustee may hold some security, and it will certainly hold the documents under which the bond issue is created. For the purposes of determining the specific nature of the credit transaction, it is therefore necessary in some cases to take the bond issue as a whole.

There is, in practice, an infinite variation in the types of bonds actually used. The needs of corporate finance, and the

desire to attract the funds of all types of investors, has led to the creation of types of bonds which differ from one another in regard to almost all their characteristics.[1] We can classify these various types according to four different criteria, viz.:

1. According to the character of the security;
2. According to the provisions governing the payment of interest and the repayment of principal;
3. According to the purpose for which they are issued; and
4. According to the nature of the issue.

If we take, first of all, the character of the security, it is apparent that individuals who are asked to lend their funds for a period of several years will often require security out of which their claims can be met if the debtor should prove unable to fulfil his obligations. There is also an advantage to the borrower in giving security, because a loan which is amply secured can often be negotiated at a much lower rate of interest than one which is either unsecured or inadequately secured. The highest type of security offered for a bond issue is a *first mortgage,* upon all of the assets of the issuing corporation or upon some substantial portion of those assets. In this case the bonds have a prior claim against the earnings of the debtor, and if the earnings are not adequate to pay the interest, the bondholders, through the trustee for the issue, have the right to take possession of the property which has been mortgaged. Bonds are also issued against *second,* and even *third, mortgages* upon the same property, in which cases the nature of the security is the same but it is apparent that its value to the bondholders is much less, because the holders of a second mortgage bond have no claim on the income until the first mortgage bondholders have received their interest in full, and similarly in the case of a foreclosure the latter will be repaid in full before the holders of second mortgage bonds can claim any of their

[1] For a fuller discussion of the various kinds of bonds, see L. Chamberlain, *Principles of Bond Investments,* Chs. VIII–XI.

capital. In the case of third mortgage bonds, which are rarely issued, the situation is even worse.

Almost on a par with first mortgage bonds are *collateral trust bonds,* the security for which consists of the securities of other corporations which have been placed in trust by the debtor. If the collateral securities are well chosen in the first place, and carefully supervised by the trustee during the life of the loan, collateral trust bonds may be regarded as an investment equal in security to a first mortgage bond.

Finally we have *debenture bonds,* against which no specific security has been set aside. The bondholders merely have a right to receive payment out of the gross income of the debtor company, which is secondary to that of the mortgage bondholders, but superior to the claims of the stockholders for dividends.

Regarding the provisions governing the payments of interest and the repayment of the principal, it is impossible to describe all of the varieties of bonds in existence. A list of the more important groups is as follows, and the names are self-evident in almost all cases.

1. Gold bonds
2. Participating bonds
3. Profit-sharing bonds
4. Convertible bonds
5. Callable bonds
6. Coupon bonds
7. Registered bonds

The third and fourth classifications are equally simple. The purpose of the bond issue is not always specified, and in those cases where the purpose gives its name to the issue, as with *refunding bonds* or *terminal bonds* (in the case of a railroad) the purpose is apparent. Similarly, in the case of the issuer the broad distinction is between *public bonds* and *corporation bonds.* The former consists of the securities issued by national governments or by the political authorities administering states,

territories, counties, and cities; while corporation bonds can be divided into as many groups as there are varieties of corporate activity.

Notes are credit obligations, very similar to bonds, but issued for periods not exceeding five years in the majority of cases, and frequently very much shorter. Security is given less generally than in the case of bonds, but when it is provided it usually takes the form of stock exchange securities as collateral. As a matter of fact the note stands midway between the bond and the ordinary promissory note, and is sometimes used for the purposes of commercial credit, although in the majority of cases, the proceeds are used for fixed capital purposes. The rate of interest on notes tends to run higher than that on bonds, partly because of the lack of security, but mainly owing to the fact that notes are often issued during a period of high interest rates with the deliberate intention of repaying them out of the proceeds of a long-term bond issue, which will be floated when interest rates have fallen somewhat.

One special class of notes, the *equipment trust certificate*, may be specially noted. This is an obligation issued by railroad and traction companies for the purpose of purchasing new rolling stock. The ownership of the cars is vested in a financial institution, which acts as trustee for the issue, and the certificates are repaid out of the amounts received by the trustee from the railroad as rental for the cars.

Corporate Stock as an Investment Credit Instrument.—*Stock* is legally an evidence of proportional ownership of the business, and from the legal viewpoint it cannot therefore be regarded as a credit instrument. In practice, however, the stockholder of a large modern corporation exercises very little of the rights and duties of ownership, if we except that small body of active holders, whose interest lies in maintaining a controlling interest for the purpose of directing the policies of the corporation. To the average investor, stocks and bonds are

regarded as similar, in that each represents an avenue through which funds can be lent for the time being, and this attitude of mind tends to be strengthened by the prevailing discussions of investments, which pay no attention to the legal difference of the stockholder from the bondholder. We may, therefore, without any injustice to contemporary investment practice, regard stocks as credit instruments.

As in the case of bonds, many varieties of stock have been evolved to meet the widely different needs of the several classes of investor. To those who desire security there is offered a cumulative preferred share, which is very little different in practice from a debenture bond—while at the other end of the scale we have common stock for those who are willing to take a substantial amount of risk in the hope of large returns.

- Stocks
  - Common
  - Preferred
    - Cumulative
      - Participating
      - Non-participating
    - Non-cumulative
      - Participating
      - Non-participating
  - Rights

The above table gives a general idea of the various classes of corporate stock or shares. Broadly speaking, the common stockholder is the residual claimant, receiving only that portion of the corporate income which remains after all claimants have been satisfied. The preferred stockholder on the other hand has a right to a fixed dividend, which is secondary to that of interest on all classes of bonds and notes, but which must be satisfied in full before the common stockholder receives anything. If the preferred stock is cumulative, any arrears of dividend from previous years constitute a charge on current income, and, if the participating privilege is also attached, the preferred stock will share to a limited extent in the residual profits which would otherwise go to the common stockholders.

Rights are a comparatively new form of investment credit instrument. They constitute a privilege given to existing

stockholders, under which they can subscribe to a specified amount of new stock at a price somewhat below the current market quotations of the stock. Rights may therefore be regarded as a kind of a bonus to the existing stockholders.

Documents of Title.—In discussing the various kinds of bonds, we suggested that the debtor often found it desirable to give security for the loan, and this applies with equal force to some of the transactions which are embodied in commercial credit instruments. Frequently such collateral security takes the form of investment credit instruments similar to those already mentioned, but in a large number of cases documents giving title to merchandise are used, as was apparent in the case of the documentary bill of exchange. These documents are not, strictly speaking, credit instruments but they are of such importance to many credit operations, and are so intimately associated with particular commercial credit instruments, that it seems advisable to discuss them briefly at this point.

The first, and most important, of these documents of title is the *bill of lading,* which serves the dual purpose of a contract for the transportation of goods and of an evidence of title to those goods. Whether issued by steamship lines or railroad companies, the bill of lading may be in either one of two forms —negotiable or non-negotiable—of which the first is naturally of greater importance, since, by the simple process of indorsement, it enables the holder to transfer title to the goods from himself to some other party. In the case of foreign trade, such a bill of lading is usually attached to the bill of exchange, and the two circulate together so that every holder of the bill of exchange, before it is presented to the drawee, is secured by the fact that he is, for the time being, the owner of the goods to which the bill relates. The consignee of the goods, upon whom the bill of exchange is drawn, will naturally desire to obtain possession of the goods as soon as possible, and the con-

tract may specify that the bill of lading is to be delivered to him as soon as he accepts the bill of exchange.

In some cases, however, this is not the case, and the documents will only be handed over when the bill is paid. Should the consignee not be ready to pay the bill of exchange before the due date, it is necessary that the goods be immediately received from the transportation company, and placed in a depository, where they will be so taken care of that the holder of the bill can be certain that his collateral security remains intact. The obvious place in which to store the goods is a licensed warehouse, and since the bill of lading was given to the transportation company when it surrendered the goods, the holder of the bill of exchange will now obtain a new document of title—the *warehouse receipt*—in its place. This is simply a statement, over the signature of the warehouseman, that he has received the goods mentioned, and that he will only surrender them to the individual presenting the warehouse receipt.

The consignee of the goods may, however, find it necessary to sell some of these commodities, in order to accumulate sufficient funds to meet the bill of exchange when it becomes due, and he may not be able to do this if the goods are stored in a warehouse. The holder of the bill of exchange may, therefore, allow him to remove the goods to his own premises, on condition that he gives a *trust receipt,* which specifies that the commodities are the property of the creditor and that the debtor holds them as trustee only.

These three documents, the bill of lading, the warehouse receipt and the trust receipt are becoming increasingly important as accessories of commercial credit instruments. While the bill of lading is used in both foreign and domestic trade, the two latter documents are primarily of importance in regard to the distribution of certain kinds of goods within the country itself.

CHAPTER 10

THE FOREIGN EXCHANGES

Of recent years, and particularly since the close of the World War, the foreign exchanges have had an interest for Americans which they had not previously attracted. But many people, who have felt a desire to know something of the subject, have been repelled by its apparent technicality and complexity, which are due, in large measure, to the strange terms met with in the foreign exchange article in the daily paper, and, in part also, to the lack of precise definition of those terms. Even when the term "foreign exchange" is used, reference is sometimes had to the thing which is bought, sometimes to the price at which it is bought, and sometimes to the financial mechanism through which it is bought. Thus one will sometimes see a statement that "sterling exchange is plentiful," meaning that foreign exchange *instruments* expressed in terms of sterling are plentiful; while on another occasion the same authority will inform us that "sterling exchange is rising," and wish us to understand by the statement that the *price* of sterling exchange is rising. These are abbreviations which are generally understood in the financial world, but they are very apt to cause confusion to a novice. In actual fact foreign exchange *is simply the financial system by means of which commercial nations discharge their debts to one another.*

When the technicalities of verbiage are removed, there is nothing difficult about the subject of foreign exchange. If we glance at the statistics of foreign trade, it is apparent that, during any particular year, the United States purchases from other countries a large number of things. Women in New York are anxious to wear French gowns, which must be

obtained from Paris; automobile owners in all parts of the country wish to purchase tires manufactured from rubber which is grown on the plantations behind Singapore; others like to drink coffee which is purchased from the growers in Brazil. All of these and innumerable other commodities are obtained by the United States from various foreign countries, and, not unnaturally, the foreign merchants desire payment for the goods which they have sold. Now, if I wish to obtain possession of a certain article in the domestic market, I can do one of three things. In the first place I can pay cash, but, if this should be inconvenient, it may be possible to persuade the seller of the article to take, in exchange for it, commodities which I possess and of which he happens to be in need. If this second method fails, and the owner of the article which I desire is very anxious to sell it, he may be willing to accept in immediate payment an appropriate amount of investment securities, which he may hold for ultimate payment or dispose of at once for cash.

The Process of Foreign Exchange.—These same three methods are the only ones which a nation can use to pay for the imports which it receives from other nations. The purchase of foreign goods can only be made if "cash," or domestic goods, or investment securities are given in exchange, so that there is an essential similarity between the methods by which an individual is enabled to obtain goods in the domestic market, and the methods by which a nation can obtain goods from other countries. But, whereas in the domestic market the vast majority of transactions are settled by the payment of money at the time of purchase or shortly after it, the other two methods predominate in the international market. Gold bullion, which serves as a kind of international cash, is only used to pay for a very small part of the imports of a large commercial country—the rest being settled by the export of goods or investment securities. So well recognized is this state of

affairs, that one frequently meets with the statement that "imports are paid for by exports."

It may be suggested, however, that international trade is not carried on by nations, but by individuals, and that the individual who imports silks from France has no commodities which would be acceptable to the Parisian merchant, if they should be sent to him in payment of the bill. How then is it possible that imports can be paid for by exports? The problem is met by the use of the bill of exchange. Let us suppose that Jones & Co. of New York purchase silk goods from Poiteau Frères of Paris, to the aggregate value of 1,000 ounces of gold, and that Belmont et Cie. of Paris purchase American automobiles, to the same amount, from the New York Motor Corporation. It is clear that the transactions could be settled in the manner shown in Figure 4.

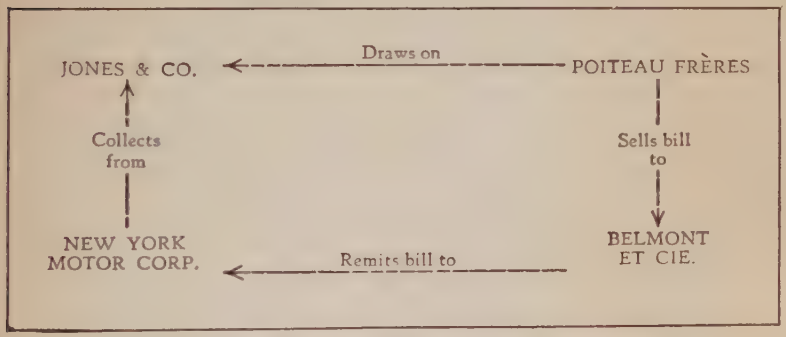


Figure 4. The Process of International Settlements.

Poiteau Frères can draw a sight bill of exchange on Jones & Co., and sell this bill to Belmont et Cie. for 1,000 ounces of gold (omitting for the time being all questions of interest and discount). The silk merchants have now received payment for the goods they sent to New York, and Belmont et Cie. will be able to meet their obligation by sending the bill of exchange to the New York Motor Corporation. The latter will obtain the

amount due to it by presenting the bill to Jones & Co., and demanding payment. The import of French silk and the export of American automobiles, have been set off against one another, and no gold has crossed the Atlantic. In actual practice, the problem would never be as simple as this, because the various parties would probably be unacquainted with one another, and it is highly unlikely that two individual transactions would be identical in amount, and in date of payment.

The difficulty is met by the banks, which act as intermediaries in the process. Poiteau Frères would sell the bill of exchange to a bank in Paris, and the Paris bank would send it to the New York Bank which acted as its agent. The latter would then collect the bill, and hold the proceeds until such time as the Paris bank should draw a check against them. Belmont et Cie. would go to the bank to purchase a bill of exchange, payable in New York, and the bank could meet their request by drawing upon the proceeds received by the New York bank from the payment made by Jones & Co. The banks, in which term we include all those financial institutions which form a part of the foreign exchange market, hold a very important place in the system. They are the intermediaries between those who are receiving payments from foreign countries and those who have payments to make in foreign countries, and their foreign exchange operations are for the most part connected with the transactions necessitated in the buying of commercial bills of exchange from one set of customers, and the selling to another set of customers of drafts drawn against the proceeds obtained in foreign countries from the bills previously purchased.

The Rate of Exchange.—All of this appears comparatively simple, but the objection may be raised that international transactions are not stated in ounces of gold. We have used this unit of value to facilitate the description of the process of payment, but in actual practice the French exporter will wish to

receive payment in francs, while the American exporter desires payment in dollars. It is this factor which makes foreign exchange appear so complex, for, whereas all our domestic operations are conducted in dollars, the transactions of international trade are expressed in pounds sterling, Reichsmarks, pesetas, or any other of the many currency units which at present exist in the various countries of the world. The Parisian merchant, who sold to his banker a draft on his New York debtor, would in practice be selling dollars and receiving francs in payment—but what is the price of dollars in terms of francs? This price is known as the *rate of exchange*; it is *the value of the monetary unit of one country expressed in terms of the currency of another*, and a casual reading of the foreign exchange column of any morning paper will convince us that these rates are by no means fixed. Dollars fluctuate in terms of francs, and all the other currencies; on the other hand, the prices of the other currency units are daily fluctuating in terms of dollars.

When we were discussing the gold standard of the days before the war,[1] we found that the *mint parity* constituted the basis of the foreign exchange rates. The amount of pure gold contained in the German crown of 10 marks is exactly 55.3130 grains; and, since the gold dollar of the United States contains 23.22 grains of pure gold, the bullion value of the crown in terms of the dollar is $2.3821. The mint par of the mark, i.e., the arithmetical relationship determined by its gold content as compared to that of the dollar, is $0.23821. Similar mint parities may be calculated between any two currencies which are based on gold, and before the war, as we have already noticed, the gold standard was almost universal, so that there was a definite mint parity upon which to base each exchange rate. This was not true of those countries which had a silver standard, nor of those on an inconvertible paper standard, but these exceptions were few, and relatively unimportant.

[1] See above, Chapter 5.

In those days, moreover, gold coin was in actual circulation, and any of the other forms of money could easily be converted into gold at the will of the holder. Given this condition of affairs, the holder of a foreign bill of exchange could do either one of two things with it. In the first place, he could sell it to a bank, or to some other person who wished to use it to pay a debt in the foreign country on which it was drawn. Alternatively, he might send it to the foreign country and instruct his debtor to send him gold bullion in payment. This gold bullion could be exchanged for domestic currency at the central bank, or treasury, of the country, so that in either case the creditor would have gained possession of money which was current in his own country, and which he could, therefore, use to purchase in the domestic market the commodities which he desired. If it cost nothing at all to transport gold bullion from one country to another, it is clear that the holder of a foreign bill would never sell it at a price which was less than the mint parity, nor would a purchaser be willing to pay a higher price, because he could just as easily send gold. In such a case, the rate of exchange would never fluctuate, but would remain constantly at the level set by the mint par.

In actual practice, however, certain costs are incurred in the shipment of gold, and these costs are the basis for the calculation of what are called *gold points*. If gold were exported to pay a debt, the actual costs of transportation would have to be added to the cost of the bullion itself, as fixed by the mint parity. A debtor would therefore be willing to pay a rate somewhat higher than the exact parity, provided that rate were still less than the total cost of sending gold. On the other hand, an import of gold would offer the creditor an aggregate amount of purchasing power somewhat lower than the figure shown by the mint parity, because the costs of shipment would have to be deducted. When the rate of exchange is at the gold points it is just as cheap to sell a bill of exchange, as to import gold from the country on which it was drawn; or, at the oppo-

site end of the scale, just as cheap to buy a bill, as it would be to send gold in fulfilment of an obligation. Now it is clear that no one would willingly give for a foreign bill of exchange a sum greater than that which he would have to pay to get the amount of gold bullion necessary to meet the face value of the debt, and to ship that bullion to his creditor, so that in the pre-war world the fluctuations in the exchange rates tended to be limited by the gold points.

But, although the fluctuations were limited by the gold points, the exchange rates were always moving upward or downward, even before the war. The actual price of a given currency, let us say sterling, on the New York market was not fixed, either by the mint parity, or the gold points, for, while these factors exercised a general influence, *the rate of sterling exchange at any given moment of time is fixed by the relationship existing between the supply of sterling bills, offered on the market by those who have payments to receive from England, and the demand for sterling bills on the part of those who have obligations to meet in England.* It is often assumed that these payments and obligations arise entirely from the import or export of merchandise, but a glance at Table VIII shows us that international payments from one country to another may arise from a large variety of causes, and the remittance to his mother in Ireland which is sent by a citizen of New York will exercise as much influence on the exchange rate as the import of English cutlery worth an equivalent sum.

A word of caution is also necessary in regard to the rather platitudinous assertion that "exports pay for imports." Over a long period of time, say a year or more, the total exports do tend to equal the money-value of the total imports, as is shown in Table VIII, but the foreign exchange rates reflect the actual relationship between the supply of bills and the demand for bills *at a given moment of time.* They have but little concern with long-term averages, and it is necessary to realize that, on any given day, the total volume of the payments to be made in

TABLE VIII. BALANCE OF INTERNATIONAL PAYMENTS OF THE UNITED STATES, 1925[2]

	Millions of Dollars
THE UNITED STATES SOLD:	
Merchandise	4,934
Silver coin and bullion	99
Gold coin and bullion	262
Services:	
Use of American capital	520
Use of American ships	75
Use of American motion pictures	75
Services to foreign tourists in U. S.	100
Stocks and bonds in American corporations	578
Receipts of U. S. government to foreign nations in return for payment of their debts	160
	6,803
THE UNITED STATES BOUGHT:	
Merchandise	4,268
Silver coin and bullion	65
Gold coin and bullion	128
Services:	
Use of foreign ships	83
Use of foreign capital	165
Services to American tourists	660
Services of foreigners for U. S. government	5
Stocks and bonds in foreign corporations	1,072
Goodwill, by remittances abroad to friends and relatives and for charitable purposes	360
	6,806
Balance due to errors and omissions	3

sterling may be very different from the supply of sterling bills available on the New York market. To take but one illustration, the price of sterling in New York always tends to fall in the autumn, when the heavy seasonal exports of cotton and wheat are made to England.

Influences Diminishing the Fluctuation in Rates.—If the daily exchange quotations were entirely at the mercy of differences between the supply of sterling bills arising from actual transactions with England and the demand for bills due to similar reasons, there would be frequent and violent fluctua-

[2] Department of Commerce, Trade Information Bulletin No. 399, April, 1926.

tions in the exchange rates; and, as these rates fluctuated beyond the gold points, gold would almost always be moving across the Atlantic in one direction or the other. This does not occur in practice, however, because certain financial operations are undertaken to exercise a stabilizing influence on the exchange rates, either by spreading the actual supply of, and demand for, bills over a wider geographical area, or by spreading them over a longer period of time.

When the imports of England from the United States are much greater than her exports to the United States, it is possible that another country may be brought in to equalize the situation. Brazil, for instance, has an excess of exports in her trade with the United States. If the American importers of Brazilian products meet their obligations by purchasing a sterling bill, and remitting it to Brazil, the demand for sterling in New York will be increased, and the rate of exchange on London will not fall as far as it otherwise would. This *triangular trade* helps to remove any temporary discrepancies between the supply of, and the demand for, a particular currency, and the process of roundabout settlement is also aided by the *arbitrage* dealings of banks and other professional traders. By a careful study of the prevailing rates in the various markets of the world, it is sometimes possible to make a profit by purchasing a currency in one market and selling it simultaneously in another. The effect of this operation is to increase the supply of the currency in the market in which its price is higher, and to increase the demand in the market where it is lower, and, since there are always arbitrageurs on the lookout for a possible opportunity to make a profit, the rates in one market are never likely to depart far from those which prevail in other markets. In effect, the operations of arbitrage tend to spread the market for a given currency over the whole commercial world.

Despite this fact, there are times when a given currency is particularly weak in all markets, and to remedy this situation

the supply of, or the demand for, bills must be spread over a longer period of time. Let us suppose that heavy payments to Germany cause the price of marks in New York to rise rapidly. The converse of this situation will be a low rate for dollars in Berlin, and it is apparent that the exchange of marks into dollars offers an opportunity to reap a profit when the rates return to a more normal level. In such a situation, those New York banks which have Berlin agents will arrange to draw bills of exchange (known as *finance bills*) upon the latter. Such bills are usually drawn for periods of from one to three months, so that a substantial time will elapse before the New York banker has to purchase the necessary amount of marks to send to Berlin, in order that the acceptor of the bill may have funds with which to meet it upon presentation. Such operations offer the possibility of profit to the New York bank, while the Berlin bank will receive a commission, or a share in the profits, for its services in the matter—but, from our point of view, the important fact is that, by increasing the supply of marks in New York at the time at which the bill was drawn, the rise in the rate of exchange on Berlin was diminished, while, on the other hand, the subsequent purchase of marks to meet the bill will tend to increase the demand for bills on Berlin, and so to diminish the probable fall in the exchange rate. The use of finance bills, therefore, tends to equalize the conditions in the foreign exchange market over a period of time.

Gold Movements.—The operations of arbitrage, and the use of finance bills, exercise a stabilizing effect upon the foreign exchange market, so that the fluctuations in the rates of exchange are much smaller than they would otherwise be. But, despite all these operations, the rates sometimes move outside the gold point, and gold is shipped from one country to another. Such movements of gold tend to correct the situation which gives rise to them. As we have already seen, the import of

gold tends to raise prices in a country, while prices will tend to fall in the country from which gold is exported. This tends to make the gold-importing country a less desirable place in which to buy goods, the demand for her products will fall off, and, as a result, there will be fewer people who need to purchase bills in that country. The exchange rate will therefore fall and the movement of gold to that country will cease.

Turning to the other side of the picture, the country which is exporting gold will find that the resultant decrease in its price level makes foreigners much more willing to purchase the products of its industry. Its exports of commodities will therefore increase, and the revived demand in foreign countries for bills of exchange, with which to pay for these goods, will cause the value of the currency of that country to rise in the foreign exchange market. The outflow of gold will therefore cease long before the gold reserve of the country is exhausted. While the operations of central banks are treated more fully in a later chapter, we may notice, at this point, the fact that the exports of gold usually lead, not only to a decrease in the price level, but also to a rise in the general level of interest rates within the domestic market. As a result of this fact, the country which has been exporting gold offers a good market in which to lend funds, and the bankers in that country will draw finance bills on their correspondents in other countries, in order to sell them in the market and lend the proceeds at the prevailing rates of interest. The supply of bills on foreign countries is thus increased, and this influence augments the increase of the export trade in causing the exchange rates to move once more below the gold export point.

While it is true that the exchange rate on any given country is determined by the relationship between the supply of bills on that country, which are offered, and the demand for them, on the part of those who have payments to make, it is apparent that we must look beyond this fact if we are to get at the true causes which fix the rate. The level of prices in the two coun-

tries exercises a considerable influence upon the movement of commodities, while the differences in their respective interest rates is a major cause of the creation of finance bills. Both the supply of foreign bills, and the demand for them, are thus determined to a great extent by movements in the general level of prices and movements in the rates of interest. While this aspect of the problem was well-known to some of the writers on the subject of economics, it was frequently overlooked before the war, owing to a concentration upon the movements of gold as the key to the whole problem. In reality, the fact that gold was exported was only an incidental result of the exchange mechanism, but the study of gold movements has proved helpful in that it has led us back to the fundamentals upon which the whole process of foreign exchange is operated.

The War and the Exchanges.—The abolition of the gold standard in 1914 removed all vestige of a connecting link between the various currencies, and, at the same time, the belligerent powers began to import from the neutrals (and particularly from the United States) quantities of goods and services far in excess of their pre-war requirements. Simultaneously, the preoccupation of the belligerents with the business of fighting, led to a decrease in their exports of commodities and services, and to a practical cessation of their exports of capital. Some other methods of paying for the increased volume of imports had, therefore, to be found if the exchange rates were to be prevented from falling successively to points that were further and further below the average pre-war level. This problem was studied very seriously by the belligerent governments, partly because the fall in the value of their currencies on the foreign exchange market tended to have an adverse psychological effect upon the population, and partly because of the fact that the fall in the value of their own currency made it necessary to spend more of that currency to purchase each of the dollars which they had to pay to the United

States. A falling exchange rate increased the price, in terms of the local currency, of the commodities which it was necessary to import. It must be remembered, however, that the fall in the foreign exchange quotations of the European currencies was not entirely due to adverse trade balances. The severe inflation which was carried on exercised a considerable effect upon the situation, through the resultant rising level of general prices, and it was the existence of this inflation which made the problem of regulating the exchange rates much more difficult than it might otherwise have been.

Nevertheless, each of the belligerent nations set out, in its own way, to control the foreign exchange rates, with a view to preventing the continual fall in the price at which its currency sold in terms of dollars.[3] The methods which they employed can be divided into three major groups, viz.:

1. Attempts to increase the available purchasing power with which goods could be obtained in other countries;
2. Attempts to decrease the volume of payments which had to be made abroad; and
3. Attempts to regulate the fluctuations in the exchange quotations of the domestic currency.

Regarding the first of these lines of action, it must be remembered that, before the war, the nations of western Europe had exported substantial sums of capital to the more newly developed countries of the world. The United States, in particular, had borrowed substantial sums for the purpose of constructing railroads and public works, as well as for general industrial development, and it has been estimated that at the outbreak of the war, Europeans held American securities aggregating some five or six billions of dollars. The governments of the belligerent countries purchased large quantities of these securities from their citizens, and sent them to New York, in order that they might be sold to provide funds against which bills could

[3] See T. E. Gregory, *Foreign Exchange*, pp. 66–79, for a more complete discussion of this problem.

be drawn, to pay for the goods and services which the United States was exporting. If it were not desired to sell the securities outright, they might be used as collateral security, against which funds could be borrowed from a New York bank, the net result being the same in both cases. Large amounts of American securities were repatriated, by this process, during the early part of the war, but the supply of available American securities was limited, and the European governments soon exhausted this method of regulating the foreign exchanges. A variant of this plan was the sale of European government securities on the American market, but the market was not always anxious to absorb these security issues, and in some cases it became necessary for the belligerent nations to send gold to the United States in order to strengthen their credit.

When the United States actually entered the war, in 1917, the problem was rendered very much easier. By giving large credits to the Allied powers, the United States enabled them to make the necessary purchases in this country, while the Central Powers no longer needed credits, because the increased stringency of the naval blockade made it practically impossible for them to import anything from overseas. On the whole, therefore, a certain measure of success was attained by these endeavors—but only at the cost of selling substantial amounts of European-owned American securities, and borrowing additional sums from the United States, thereby changing the latter from a debtor into a creditor nation.

The attempts to decrease the volume of payments which had to be made to the United States were less successful. The restriction on the import of "luxury" goods gives the government the rather difficult task of deciding what is a luxury, and what a necessity—and even if that rather thorny problem should be settled, the fact emerges, from a study of the economic results of the war, that in the majority of cases the importation of "luxuries" became impossible because of the lack of shipping tonnage. Yet the increasing volume of im-

ported necessities was so great that it is doubtful whether the exclusion of luxuries could have had very much effect on the exchange rates. The restrictions on the purchase of foreign securities, and the other similar measures, may have had some influence, but on the whole it is exceedingly doubtful whether the belligerents were able to exercise any appreciable effect upon exchange rates through a conscious diminution in the volume of payments which had to be made abroad.

The outstanding example of an attempt to regulate the fluctuations in the exchange quotations of the domestic currency is the *pegging* of sterling at $4.76, from the early part of 1916 until March, 1919. Pegging is a comparatively simple process. All that is necessary is that some institution in the New York market should be in possession of sufficient funds to buy, at the fixed price, all of the sterling bills which are offered for sale. The result of such a process is to keep the foreign exchange value of sterling higher than it would otherwise be, a factor which would make all those who have sterling bills offer them in the New York market in order to get the best possible price. The pegging of an exchange is, therefore, a very expensive business, but throughout the period already mentioned the British Government was able to supply J. P. Morgan & Co. with adequate funds to carry out the scheme. These funds were obtained by the sale of securities, or by loans from the United States to Great Britain, and although we may doubt whether the result was worth the expense, it is apparent from Figure 5 that sterling was effectively stabilized, and that very little fluctuation took place.

With the cooperation of Great Britain and the United States, the French franc was similarly pegged, although a study of Figure 6 gives evidence that the fluctuations experienced were substantially greater than those felt by the pound sterling.

Throughout this discussion we have focused our attention on the exchange rates between the European belligerents and

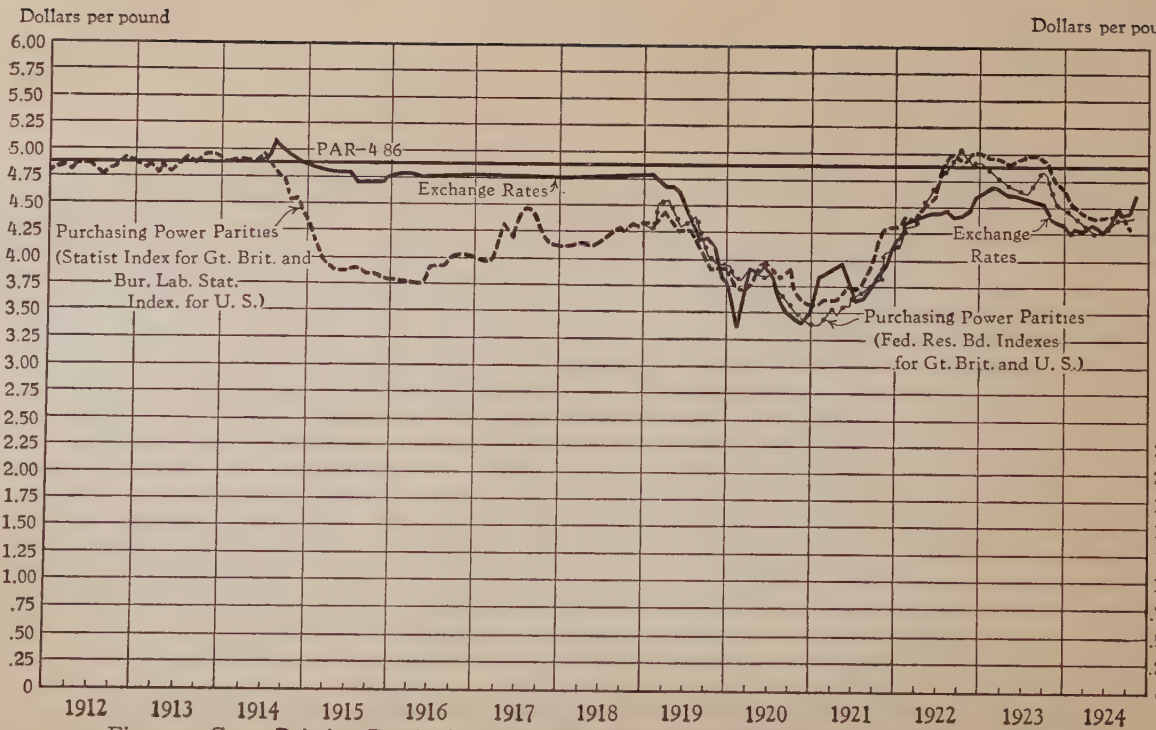


Figure 5. Great Britain—Purchasing Power Parities and Exchange Rates—Monthly, 1912-1924.

(From J. P. Young, *European Currency and Finance*, Vol. I)

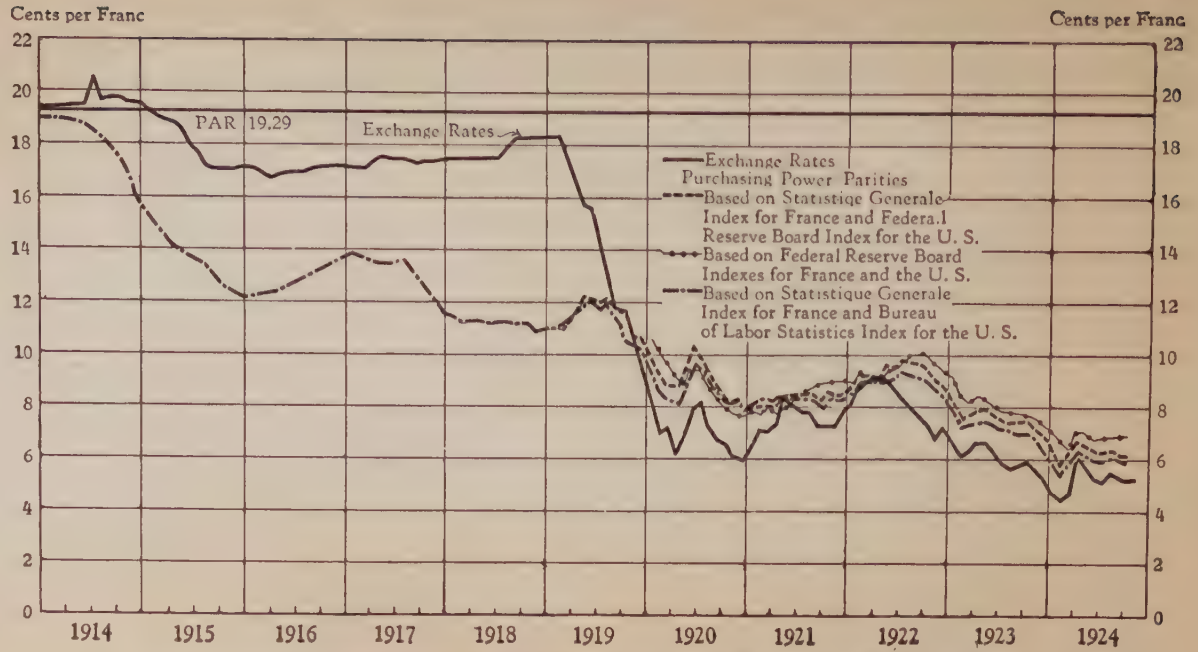


Figure 6. France—Purchasing Power Parities and Exchange Rates—Monthly, 1914–1924.

(From J. P. Young, *European Currency and Finance*, Vol. I)

the United States, partly because of the fact that the United States was by far the most important source of supply to which the European nations resorted, and partly because the dollar was, in 1919, the only remaining currency unit of any importance which had maintained its parity with gold. The transactions which occurred between the belligerent powers and the remaining neutrals were very similar in nature to those which we have discussed above, but they were of infinitely less importance in terms of pecuniary volume. Looking at the problem as a whole, it is apparent that the belligerents succeeded in maintaining the exchange quotations of their currencies at a level substantially above that which would have prevailed if economic forces had been allowed full play. This was particularly true in the cases of England and France, and indeed it may be suggested that the financial strength of England was a very present help in time of trouble to all of the continental powers. All three methods of regulation had some influence in achieving this result, but the net cost, not only pecuniary but also in the widest economic sense, was staggering. A part at least of this cost was due to the policy of currency inflation pursued by all countries, but this anticipates the subsequent discussion.

After the conclusion of hostilities, the attempts to control the exchange quotations were in the main abandoned, and the currencies of each of the European belligerents dropped rapidly to a level more nearly approaching that fixed by the operation of economic forces. This is apparent from Figures 5, 6, and 7, although the most stupendous example is furnished by the precipitous decline in the exchange quotations of the German mark, which is graphically shown in Figure 7.

Purchasing Power Parity.—If the influence of price level on the foreign exchange rates had tended to be overlooked during the years immediately preceding the war, it came into its own during the post-war period. We have already pointed

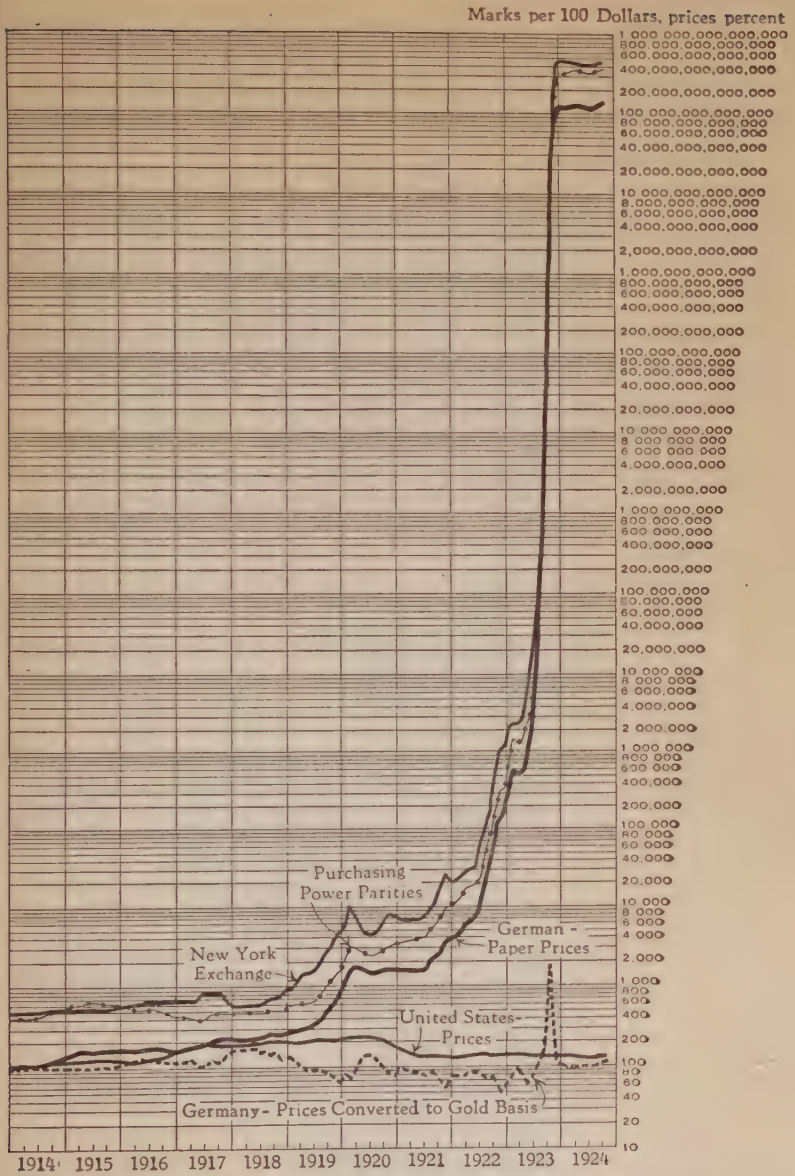


Figure 7. Germany—Purchasing Power Parities and Exchange Rates, Wholesale Prices on Paper Basis and on Gold Basis, United States Prices, Monthly, 1914–1924

out that one of the few benefits which have flowed from those four years of human madness has been a renewed study of monetary problems, and a restatement of monetary theory in the light of the developments since 1914. Tribute is perhaps due to Professor Cassel, more than to any other man for his attempts to restate the whole theory of exchange rates in a newer and more satisfactory light.[4]

Beginning his analysis very simply, he points out that, "our willingness to pay a certain price for foreign money must ultimately and essentially be due to the fact that this money possesses a purchasing power as against commodities and services in that foreign country. On the other hand, when we offer so much of our money, we are actually offering a purchasing power as against commodities and services in our own country. Our valuation of a foreign currency in terms of our own, therefore, mainly depends on the relative purchasing power of the two currencies in their respective countries."[5] It is upon this basis that the whole theory of foreign exchanges now rests. To take a very simple example, if it costs me $100 a week to live in the United States on a certain scale of living while it would cost an Englishman £20 a week to live on an identical scale in London, then the value of a pound will be $5 as measured by the purchasing power of the two currencies in their respective countries. It is, however, an exceedingly difficult problem to make studies of the relative purchasing power of different currency units. People in different countries have different standards of living; articles which are commonly met with in one country are rare luxuries in another, while those things which are the necessities of life in the latter may be almost unknown to the average inhabitant of the former. To establish absolutely, at any given moment of time, the relative purchasing power of two monetary units would be an almost impossible task.

[4] See particularly, *Money and Foreign Exchange After 1914.*
[5] *Op. cit.*, p. 138.

It is therefore necessary to make our calculations on a relative basis, going back to that period before the war in which the widespread use of the gold standard, coupled with a minimum of trade regulations, tended to develop a general price level throughout the western world. An owner of gold could purchase in New York substantially the same amount of commodities as could be obtained in exchange for it in London, Paris, or Berlin, so that the old mint parity may be said to have measured, with approximate accuracy, the relative purchasing power of the various monetary standards in their respective countries. With the advent of inconvertible paper standards, and the development of inflation in the several countries, the general price level rose as we saw in Chapter 5. The rise was, moreover, greater in some countries than it was in others, or stating the converse, the value of some monetary units as measured in terms of commodities, fell to a greater degree than did the value of others. Now, when two currencies have undergone inflation, "the normal rate of exchange will be equal to the old mint parity multiplied by the quotient of the degree of inflation in the one country and in the other."[6]

Let us suppose that, in a given year, the index number showing the general level of prices in Germany stands at 600, while that in the United States is 200, both being based upon the average of 1913 as 100. The mint parity between the two currency units in the latter year was 23.8 cents, therefore the normal rate of exchange in the given year will be:

$$23.8 \text{ cents} \times \frac{200}{600} = 7.9 \text{ cents}$$

Because the general level of prices in Germany has risen 3 times as much as the general level of prices in the United States, the mark will only be worth one-third as much as it was in 1913, when measured in terms of dollars. To purchase in the United States an amount of commodities which could be bought for $10 in 1913, we should have to spend $20. But to

[6] *Op. cit.*, p. 140.

purchase in Germany those commodities which in 1913 cost 23.8 marks it will, in the given year, be necessary to spend 142.8 marks. Twenty dollars in the United States therefore have a purchasing power over commodities which is equivalent to 142.8 marks in Germany, so that the normal exchange rate for the mark will be 7.9 cents, as we found by our calculation above. To the normal exchange rate, as determined in this manner, Professor Cassel gives the name *purchasing power parity,* and he regards the rate so determined as occupying the place of the old mint parity as the basis for current foreign exchange quotations.

A glance at the charts appearing earlier in the chapter shows that, once the foreign exchanges were relieved of artificial regulations, the actual rates quoted tended to move in very close accord with the purchasing power parities. The two were not, however, identical any more than was the case with the pre-war exchange rates and the pre-war mint parities. To complete the statement of current thought on the subject it is, therefore, necessary to give the reasons why the actual rates may differ from the purchasing power parity in any given case.

Deviations from Purchasing Power Parity.—In the first place, Professor Cassel emphasizes the fact that his whole explanation of the problem of foreign exchange rates is predicated upon the existence of free trade between the countries in question. The first cause for the deviation of actual rates from the purchasing power parity is, therefore, the existence of any restrictions on trade. "If the trade between two countries is more obstructed in one direction than in the other, then the currency of that country whose export is relatively more hindered will fall in the other country below the purchasing power parity."[7] This is obviously the case, for whereas the parity between the United States and France is based upon the values of the respective currencies *within* the two countries,

[7] *Op. cit.*, p. 147.

the imposition by the United States of an import duty upon French merchandise will lower the value of the dollar in terms of the merchandise so imported. This will be true not only of import duties but will apply with equal force in the case of any other restrictions upon trade.

The expectation of a future depreciation in the internal value of a currency is a second important cause of deviations from the parity. This was particularly true in the case of Germany, when it became apparent to the world that the process of inflation was continuous, and that the value of the mark, as measured by the price level within Germany, would continue to fall. While the parity measured the relative purchasing power of the mark and the dollar in their respective countries at a given moment of time, the actual exchange rate was an estimate of what that relationship would be at some future time. The current rates of exchange were, therefore, regularly below the purchasing power parity. Allied to this, but of less importance, is the fact that a strong speculative movement in the foreign exchange market may cause a temporary deviation of the actual rates from the parity. This is apparent in the case of sterling at the end of 1924, and early in 1925, when the market was speculating on England's return to the gold standard.

Another cause for the deviation of actual quotations from the purchasing power parity, although fortunately a rare one, is the practice of selling a country's currency at any price in the foreign market. The Allied pressure on Germany after the war led her to sell marks in other countries for whatever they would fetch, in order to build up foreign balances. The net result, of course, was to depress the exchange quotations of the mark below the actual parity, and so to accentuate the effect of the influences already discussed.

Finally, it must be remembered that the purchasing power parity is based upon the *general level of prices* within a country. This general level of prices includes both those commodities

which are consumed within the country, and those which are exported to other countries. The buyer of foreign bills is, however, predominantly interested in international trade, and is concerned, in the main, with those commodities which are exported. If these commodities have risen in price more than the general average of commodities, i.e., if the index number of the prices of exported goods is higher than the index number of general prices, then the currency of that country will be less valuable to a foreign merchant, who desires to buy goods for export to his own country, than it would be to an individual who was actually living in the country. Since the foreign exchange rates are largely determined by the merchants, the quotation of the currency of that country in the foreign exchange market will, therefore, tend to be less than the purchasing power parity.

Ancient and Modern Theory.—The theory of foreign exchange, as stated by Professor Cassel, is based entirely upon relative price levels. Even in the explanation of the fluctuation of actual rates above and below the parity, this same influence of price levels is observed, and it is apparent that all matters of imports and exports, all discussions of the "balance of indebtedness," are related back to that divergence in price level which is the fundamental cause of all trade. By this changing of emphasis, the whole problem of foreign exchange rates becomes both simpler and clearer, for in reality no new theory has been found. Rather we are faced with the same theory, shorn of its specific attachment to the gold standard, and made applicable to all cases.

Mint parity is usually a practical synonym for purchasing power parity between two countries which are on a free gold standard, but the great merit of the newer conception is that it applies, not only to this case, but to the case of countries on any standard whatever, for it was developed to explain the vagaries of exchange rates between countries whose monetary

standards were absolutely independent of one another. It is, moreover, apparent that, if we take the case of two countries which are both on a gold standard, the fluctuations in the exchange rates of their respective currencies can be explained very much more clearly by the above method than by the older one. In stressing the importance of the general level of prices within a country, Professor Cassel has opened the way to a better understanding of the method of correcting fluctuations in exchange rates by means of changes in those price levels. When that idea is once realized, it is apparent that the movements of gold constitute but one type of export or import. Equally effective results can be attained by the shipment of any other commodity, once we have made the general level of prices less dependent on gold than it used to be. That this result has been in some measure attained, was suggested by our discussion of the post-war gold standard, but we have still to discover whether any new method of regulating the value of money has yet been discovered, which will effectively take the place of gold movements.

Suggestions for Further Reading

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CHAPTER 11

THE EVOLUTION OF MODERN BANKING

The very dawn of civilization seems to have brought with it some recognition of the benefits to be obtained from the organization of a system designed to facilitate pecuniary transactions. It is probable that the origins of what we now know as banking lie hidden in the mists which cover the evolution of human institutions during the long period preceding the earliest of the written records which have come down to us, for the beginnings of all enterprises are generally obscure, and almost invariably unrecorded. The interest in a commercial transaction expires with its completion, and we may be sure that, when banking attracted the attention of the contemporary annalist, it had been long preparing, and possibly long in action. We are not even certain as to the origin of the word "bank," in the sense in which we are now using it. Dr. Ehrenberg[1] tells us that the business houses, which carried on a primitive form of banking in Italy, "were called *tabulae, tavole, banchi,* or *bancherii* from the pay-tables indispensable to their occupation"; but Dr. Conant[2] follows the example of MacLeod, in suggesting that the use of the word is derived from *banck,* meaning a heap or mound, by which the Germans described the public loans (*monte*) of the Italian cities. This word the Italians accepted in their own form of *banco,* and employed it to describe an accumulation either of money or stock. To support this contention, Dr. Conant shows that in a dictionary, published in 1659, bank is defined as "monte, a standing bank or mount of money, as they have in divers cities in Italy."

[1] Ehrenberg, *Capital and Finance in the Age of the Renaissance,* p. 52.
[2] C. A. Conant, *Modern Banks of Issue,* p. 8.

The accuracy of philological derivation is comparatively unimportant, although it may be suggested that the latter explanation seems to be favored by the early colonial practice of New England, by which an issue of paper money on the part of the government was often referred to as "raising a Banke."

Banking in the Ancient World.—Regarding the practice of banking, "traces of credit by compensation, and by transfer orders, are found in Assyria, Phoenicia, and Egypt before the systems attained full development in Greece and Rome. The books of the old Sanskrit lawyer, Manu, are full of regulations concerning credit." [3] Without doubt, the earliest form of banking consisted primarily of money-changing, for the variety of the forms of money in the ancient world must have rendered the services of the money-changer invaluable to the trader who ventured outside the borders of his own political area. Gradually the money-changer came to assume additional functions, and it is apparent that the *argentarii* (literally, dealers in silver) of the Roman Empire were also receivers of deposits, and lenders at interest, not only of their own money but of that which had been entrusted to them. They were also, in many cases, dealers in bills of exchange, and there is evidence that they had become very adept in the business of transferring funds from one place to another by the use of these instruments. Indeed, the business of banking had, by that time, come to be a recognized and important profession, and its members were subject to official regulations in both Greece and Rome. "The Roman laws required the argentarii to produce their accounts for official inspection, and prescribed that they should keep a cash-book, a deposit-book and a day-book." [4]

Before the fall of the Roman Empire, banking had attained a development such that it resembled in many respects the operations of the financial institutions which existed during the eighteenth century. The practices of issuing bank notes, of

[3] C. A. Conant, *Principles of Money and Banking*, Vol. II, p. 168.
[4] See Chapter 24.

receiving deposits and allowing the depositor to draw upon them by check, and of lending on simple notes, or by the purchase of bills of exchange, were all familiar to the banker of antiquity. But the system of banking appears to have been lost in that welter of anarchy which Europe experienced during the Dark Ages. Perhaps the memory of it survived in some of the southern Italian cities, of which the economic record is still to be written; perhaps the knowledge of banking practice was preserved among the Arabs, and gradually developed to fruition during that glorious era of the Caliphate at Baghdad. Of the actual developments we are in ignorance, and, as the years pass, it becomes more and more doubtful whether we shall ever learn the answer to our questions.

History shows us, however, that during the period from the twelfth century onward, Europe set out to learn again that practice of banking which had been so well known to the ancients—but of which the Middle Ages lived in profound ignorance. For many centuries, the handling of all financial matters was left to the Jews, partly because of the fact that, being excluded from almost every other profession, they were practically compelled to divert their energy to banking, and partly, because the Christian Church had set its face against loans at interest, so that no Christian was openly willing to lend money. Moreover, the Jews had a third reason for specializing in business operations connected with money and bills of exchange, for they were subject to constant persecution. When one's property is subject to confiscation there is wisdom in keeping it either in money, or in claims to money, for such assets are highly suitable for concealment, and very easy to carry away if one should find it expedient to move hurriedly.

The Bankers of the Middle Ages.—The Italians very soon emulated the Jews in their financial ability, however, and, beginning in Italy itself before the twelfth century, we find Italian bankers spreading over Europe during the two following cen-

turies. Their economic and social importance is attested by the frequency with which one comes across the word *Lombard* in modern financial discussions, and, although they aroused competition from the inhabitants of the countries in which they operated, they retained their eminence in the field of banking for a long while. These were "men who made it their business to receive deposits, either with or without interest, and who acted as agents for payments in the market by giro transfers or bills of exchange." It is a simple and attractive deduction to point out that modern banking owes its origin directly to these men, and to the goldsmiths who followed them in England. To some extent this is true, but there were many different types included under the broad term of banker, and, as Professor Gregory has pointed out,[5] there were at least five types of institution which have contributed somewhat to the modern banking system.

In the first place, we have the *giro-banks* of such great trading cities as Lyons and Amsterdam. These institutions owe their origin to the development of international trade in Europe, and were called into existence by the necessity for establishing a uniform standard of value in terms of which bills of exchange could be drawn, and of providing an institution at which such bills of exchange could be made payable. Secondly, there were the *privileged banks,* such as the original bank of England, which had received from the government a charter giving a virtual monopoly of the power to issue notes. This privilege of note issue was considered of supreme importance, as is evident from the case, not only of the two Banks of the United States, but of the many state banks which came at an even later date, and the early banking institutions frequently extended considerable financial assistance to the government in return for it. Thirdly, there was the *merchant banker,* who dealt in foreign exchange and made remittances to cover his own trading operations and those of others. Pro-

[5] *The Statist,* June 30, 1928.

fessor Gregory points out that the conception of a banker during the eighteenth century was a man who traded in bills of exchange. In the United States, we find that men like Stephen Girard were performing exactly the same function at a later date, and, although the use of bills of exchange tended to decrease in this country, the names of the merchant-banking houses still hold a high place on the London money market. Fourthly, we have the *financier,* the type which has been made famous by the Fugger.[6] These were not small bankers, but men of national and international financial importance. They were the creditors of the greatest kings and princes of their age, and even obtained direct political dominion over large provinces in Chile, to say nothing of the valuable commercial concessions which they obtained as security for the loans they made. In 1519, it was largely owing to a loan of 543,000 florins, obtained from the Fugger, that Charles V was able to persuade the Electors to confer upon him the title of Emperor, thus defeating the candidacy of Francis I, of France. An earlier example is to be found in the case of Jacques Coeur, merchant of Bourges and Argentier of the King of France. It was largely owing to the financial support of this prince among merchant-bankers that Charles VII was able to drive the English out of France and bring to a successful culmination the work which had been started by Joan of Arc.

Men of this type can be found throughout history, and we can trace the succession, through the financiers of pre-revolutionary France, to the Rothschilds, Barings, and other large investment banking houses of today. It is these investment bankers who are the inheritors of the greater part of the traditions of the financiers, but, as we shall see, the other types of banking institutions have also felt their influence. Finally comes the *deposit-banker,* the individual who can only lend when he has received deposits from others.. This type is comparatively recent for, although we find many bankers of the

[6] Ehrenberg, *Das Zeitalter der Fugger.*

past who received deposits, either for safe-keeping or for use at a fixed rate of interest, the receipt of deposits was only incidental to the main business of lending their own capital—a situation which is far from true of the deposit bank of today.

The evolution of modern banking has therefore been a complex process. Many factors have influenced its growth, and it has derived a rich heritage from the various types of experiment which have been made in the past. Moreover, the speed with which banking evolved has differed greatly from one country to another. In England, the development of deposit banking had proceeded so far, by the middle of the eighteenth century, that a speaker in Parliament was able to say, "What is it that we call a banker? There is in this city (London) a company or corporation called Goldsmiths, and most of those called bankers are of that corporation; but, so far as I know, there is not a company or corporation called bankers, nor has the business any description either by common law or statute. *By custom we call a man a banker who has an open shop, with proper counters, servants and books, for receiving other people's money in order to keep it safe and return it upon demand;* and when any man has opened such a shop we call him a banker, without enquiring whether any man has given him money to keep." In the United States, on the other hand, we find that a full century later the prime function of banking was still considered to be the issue of notes.

Banking Development in the United States.—The history of banking in the United States may be divided into four distinct periods. First we have the period from the founding of the republic up to 1836, during which two attempts were made to set up a federal banking institution, designed to act as the center of the financial system, and to perform services similar to those of the Bank of England. The failure of this attempt was followed by more than a quarter of a century of state banking, during which financial institutions of all kinds were

chartered by the States, while the federal government made no attempt to set up competing or controlling federal banks. This situation was remedied, to some extent, in 1863 by the establishment of a group of institutions of a uniform kind, which received their charters from the United States; but it was not until the passage of the Federal Reserve Act, in 1913, that another attempt was made to set up a federal institution which should unify the whole banking system, and control the extension of credit.

None of the colonial banks survived the Revolutionary War, and the first bank to be established within the United States was the Bank of North America, which was organized by Robert Morris and received a charter in 1781 under the Articles of Confederation. The bank was of great help to the government during those years of trial, issuing a bank note which constituted the most important form of medium of exchange when the Continental currency had so depreciated in value as to be practically worthless. Moreover, the bank made loans to the government, to meet the expenses incurred by the war and the period of reconstruction. Recognition of the usefulness of the bank was so general that, when the validity of its charter was questioned, the Commonwealth of Pennsylvania promptly granted a new charter under which it continued to operate until it again became a national institution in 1865. Banks were also chartered in New York and Massachusetts during the following years, but the next step of importance was the creation of the First Bank of the United States by the federal government in 1791.

First and Second Banks of the United States.—The First Bank of the United States, which was chartered for twenty years, was sponsored by Alexander Hamilton, who regarded it as a vital part of his scheme to support public credit. He pointed to the success which had been achieved by the Bank of England, and emphasized the services which a similar insti-

tution could render, not only in assisting the government of the United States, but also by supplying a satisfactory bank note currency. The bank was opened in Philadelphia, with a capital of $10,000,000, and branches were established in eight important towns throughout the country. Through this network of offices, the bank was able to transfer funds from one part of the country to another with great facility, and, as a result, the cost of such transfers was very substantially reduced. In addition, bank notes were issued which were at all times convertible into cash, and which, therefore, circulated freely and set a high standard for the notes of other banking institutions.

Relations between the bank and the Treasury were particularly intimate. Large loans were granted to the Treasury at a time when the revenue of the government from taxation was uncertain, both as to the time at which it would be received and as to the aggregate amount of the receipts. On the whole, the government obtained this accommodation at a very low rate, because of the fact that it was receiving 8% per annum on the $2,000,000 of bank stock which it held, while the rate of interest on its loans amounted to only 6%. The bank, moreover, acted as fiscal agent for the government, holding the account of the latter (on which it paid no interest) on condition that it carried out without charge the necessary transfers of funds connected with the collecting of the revenue, and the making of government disbursements. These services were of particular importance to the government at that time, because of the inadequacy of financial facilities apart from the bank itself. In addition, the bank stood high in the estimation of the business world. Not only did it furnish a currency which was constant in value, and always redeemable in coin, but it supplied adequate facilities for the purchase and sale of foreign and domestic bills of exchange, and extended credit liberally to legitimate applicants.

Despite all these services, the charter of the bank was not renewed, and the institution passed out of existence in 1811.

This was due in part to the fact that much of the capital stock was held in England, and in part to the opposition of Jefferson and others who were opposed to a federal institution—and especially to one in the wealthy coastal section of the country. No better epitaph can be furnished than the concluding sentence of Westerfield's discussion of the institution. "The First Bank of the United States failed of success because of political opposition, despite the fact that it had served well both the government and the financial and commercial world."[7]

The necessity for such an institution as the First Bank, was, says Henry Adams, "merely one of the moment, but in the period of national history between 1790 and 1860, the year 1811 was perhaps the only time when destruction of the bank threatened national ruin."[8] The government was compelled to rely upon the small state institutions, which sprang up like mushrooms, no less than 120 new charters being granted by the states between 1811 and 1814. Each of these banks issued notes, but they were entirely independent of one another, and it became practically impossible to transfer funds from one part of the country to another because the notes of one bank would seldom be accepted by the others. Moreover, the notes were overissued, and the immediate result of the War of 1812 was to cause a suspension of the convertibility of the notes into cash.

In the opinion of Gallatin, and many others who were competent to judge, the suspension of convertibility of the paper currency might have been prevented in 1812, if the First Bank of the United States had still been in existence. This opinion, together with the great inconvenience caused to both the government and business by the existing conditions, led to a considerable agitation for the creation of a similar bank without delay. The Second Bank of the United States received a twenty-year charter in 1816, being designed to extend financial

[7] R. B. Westerfield, *Banking Principles and Practice*, p. 179.
[8] H. Adams, *History of the United States*, Vol. V, p. 329.

aid to the federal government, and to restore, as soon as possible, the general convertibility of bank notes into cash. The bank was capitalized at $35,000,000, of which one-fifth was to be subscribed by the government, but, unlike its predecessor, the Second Bank was very badly managed during the first few years of its existence. Credit was extended freely, and without any adequate precautions, while the cash reserves of the bank were allowed to dwindle to an uncomfortably low figure. Although it assumed, in 1817, the obligation to redeem its notes in cash, there was very little cooperation on the part of the state banks. Throughout its career, the friction with these institutions continued to be a source of trouble to the bank. In 1819, there was a change in the administration of the bank, and during the following decade it was competently managed, and performed valuable services for both the government and business. At no time, however, did there develop that close cooperation with the Treasury which had marked the history of the First Bank. Friction constantly arose, and, in the triangular relationship between the bank, the government, and the state banks, it seemed that the Second Bank of the United States always incurred the disfavor of both the others.

Unfortunately, the bank began to assume a political importance during the administration of President Jackson. While he was opposed to the institution, there is reason to believe that he might have consented to a renewal of the charter had it not been for the fact that Henry Clay made the rechartering the chief issue in his campaign of 1832. Clay was overwhelmingly defeated, and Jackson accepted this as a popular vindication of his attitude toward the bank. To make matters worse, the management of the bank adopted a policy which irritated the government, so that in 1833 the President ordered all government deposits to be withdrawn from the institution, and thereafter it declined gradually in importance until its charter expired in 1836.

The two banks of the United States may be regarded as interesting experiments. Both of them performed useful services to the community, and political forces played a part in the ultimate destruction of both of them, particularly in the second case. The experiment has never been tried again, in precisely the same form—and indeed both of these banks have left remarkably little impression upon the financial system of the United States. Whatever may have been their influence while they existed, there does not remain in the banking system of today a single trace by which they might have been remembered.

State Banking Before 1863.—Although the Banks of the United States attract most of the historical interest that attaches to banking during the fifty years immediately following the Revolutionary War, there had been a steady growth in the number and importance of the banking institutions chartered by the various states. Beginning with the Bank of North America, which received its second charter from Pennsylvania in 1782, we find that, by the end of the century, 28 state banks were in existence. In 1811, when the charter of the First Bank of the United States expired, the number had increased to 88; and, although the statistics of this period are very inadequate, it has been estimated that, during the period prior to the chartering of the Second Bank, the number of state institutions had increased to 246 with an aggregate bank note circulation, in 1816, of approximately $100,000,000. Eighty additional banks had been chartered prior to 1829, and from this date onward to the Civil War the growth in the number of state banks was phenomenal, as is indicated in Table IX.

For a period of almost thirty years, the state banks had a clear field in which to develop, without any competition or control from Washington, and, since the various states were

TABLE IX. THE GROWTH OF STATE BANKS PRIOR TO THE CIVIL WAR[9]

Year	No. of Banks	Capital Stock	Loans and Discounts	Deposits
1834	506	$200,005,944	$324,119,499	$ 75,666,986
1835	704	231,250,337	365,163,834	83,081,365
1836	713	251,875,292	457,506,080	115,104,440
1837	788	290,772,091	525,115,702	127,397,185
1838	829	317,636,778	485,631,687	84,691,184
1839	840	327,132,512	492,278,015	90,240,146
1840	901	358,442,692	462,896,523	75,696,857
1841	784	313,608,959	386,487,662	64,890,101
1842	692	260,171,797	323,957,569	62,408,870
1843	691	228,861,948	254,544,937	56,168,628
1844	696	210,872,056	264,905,814	84,550,785
1845	707	206,045,969	288,617,131	88,020,646
1846	707	196,894,309	312,114,404	96,913,070
1847	715	203,070,622	310,282,945	91,792,533
1848	751	204,838,175	344,476,582	103,226,177
1949	782	207,309,361	332,323,195	91,178,623
1850	824	217,317,211	364,204,078	109,586,595
1851	879	227,807,553	413,756,799	128,957,712
1853	750	207,908,519	408,943,748	145,553,876
1854	1,208	301,376,071	557,397,779	188,188,744
1855	1,307	332,177,288	576,144,758	190,400,342
1856	1,398	343,874,272	634,183,280	212,705,662
1857	1,416	370,834,686	684,456,887	230,351,352
1858	1,422	394,622,799	583,165,242	185,932,049
1859	1,476	401,976,242	657,183,799	259,568,278
1860	1,562	421,880,095	691,945,580	253,802,129
1861	1,601	429,592,713	696,778,421	257,229,562
1862	1,492	418,139,741	646,677,780	296,322,408
1863	1,466	405,045,829	648,601,863	393,686,226

politically independent of one another, it was natural that several types of bank should have been created. The bank note was throughout this period of more importance than deposit-credit (although statistics indicate the growing importance of the latter after the middle of the fifties), and it is, therefore, convenient for us to classify the various banks according to the methods of note issue. By this criterion we have four distinct types of banks, viz.:

1. Banks which issued notes based upon general assets;
2. Banks of which the note issues were protected by a general safety fund;

[9] C. A. Conant, *Moden Banks of Issue*, p. 391.

3. Banks which issued notes based upon public securities; and
4. Banks of which the issues were based upon "the faith and credit of the state."

The Suffolk Banking System.—The issue of bank notes based upon general assets is found to best advantage in New England. The banks were, according to the terms of their charters, prohibited from issuing notes in excess of a specified amount, but no provision was made for any special security behind them, nor were the notes redeemable at any place other than the bank of issue. As a result of the difficulties and expense of transportation, the notes tended to circulate at a discount when they were at some distance from the issuing bank, and this situation became very marked in Boston, toward which center a large volume of country bank notes flowed in the course of trade. Gresham's Law came into operation, and the notes of the banks in other parts of the state tended to drive out of circulation the notes of the Boston banks, since the former were circulating at a discount and, therefore, constituted the "cheaper" money. The efforts of the Boston banks to increase their note circulation proved to be futile, in the face of such competition, and economic motives prompted them to seek some solution for the problem.

The solution suggested by the Suffolk Bank, in Boston, was simple. It involved the establishment of a place in the city, at which the notes of *all* banks should be redeemable. If this were done, the notes of banks in other parts of the state would circulate in Boston at a parity with those of the local banks, since both could readily be converted into cash at the wish of the holder. To carry out the idea, the Suffolk Bank constituted itself the redemption center, and, with the cooperation of the other banks in Boston, it persuaded the banks in other parts of the state to maintain with it a deposit of $2,000. The notes of such an up-state bank would be

redeemed, when presented, across the counter of the Suffolk Bank, debited to the account of the issuing bank, and immediately returned to the latter. In case an out-of-town bank should prove stubborn, in the face of persuasion to join the system, the arguments were strengthened by a pleasant practice, which the Suffolk developed, of collecting the notes of such a recalcitrant, and then making a special trip in order to present them to the issuer in inconveniently large sums and demand payment in cash. Such arguments, when added to the recognized merits of the scheme, led to the cooperation of practically every bank in New England, and, as a result, the note circulation of those banks was more satisfactory than any which existed in other parts of the country. Dr. Conant points out that, in 1858, the aggregate circulation of the New England banks was less than $40,000,000, while the redemptions at the Suffolk Bank during that year amounted to $400,000,000. On an average, therefore, every note was presented for payment ten times each year, so that the solvency of the issuing bank was frequently tested.

The Safety Fund System.—Prior to 1837, the notes of banks receiving charters from the State of New York were also issued against general assets, but in 1829 it was decided that a more adequate security was necessary, and a cooperative liability was imposed upon the banks as a group to bear the sins of their weaker brethren. It has been suggested that, "the propriety of making the banks liable for one another was suggested by the regulations of the Hong merchants of Canton, where a number of men, each acting separately, have the exclusive right of trading with foreigners, and are all made liable for the debts of each in the case of failure."[10] To carry this idea into practice, each bank was required to pay annually to the state Treasury a sum equal to one-half of 1% of its capital stock, until it had paid an amount equal to 3% of that

[10] C. A. Conant, *Modern Banks of Issue*, p. 371.

capital. Out of this safety fund there was to be paid, in case of the suspension of a bank, an amount equal to the difference between its total resources and its total liabilities—so that the provision applied, not only to bank notes, but to all the debts of a bank, although the holders of notes were given a prior claim to payment. The extension of the scheme to cover all debts was an error, which was not corrected until 1842, but, long before that time, it had led to the breakdown of the scheme because the fund was rapidly exhausted, and the solvent banks were continually called upon to make additional payments into the safety fund.

Although the scheme proved a failure, there was merit in the idea. If the fund had been applied only to the redemption of the *bank notes* of insolvent institutions, an annual payment of one-quarter of 1% of the aggregate capital of the banks would have sufficed to keep it in operation during the period from 1829 to 1865.

Free Banking System.—The breakdown of the safety fund system, during the panic of 1837, led the State of New York to seek a more satisfactory method of securing its bank note circulation, and in the following year it was decided that notes should be secured by the deposit of approved bonds or real estate mortgages. Whereas the earlier banks had been privileged institutions, created by special acts of the legislature, the Free Banking Act of 1838 authorized any individual or association to engage in the issue of notes. The notes were engraved by the State Comptroller, and were supplied to the applicant after he had deposited bonds of the State of New York, or of the United States equal, at par value, to the amount of the notes. The bonds of certain other states were also accepted, as were real estate mortgages, but neither of these groups was of particular importance. In effect, therefore, any individual or group of individuals was given the right of starting a bank, with no condition other than the deposit of

securities and the imposition of double liability on the owners of the bank. The number of banks multiplied rapidly, and, after the early years of experiment had passed, the system proved very satisfactory in New York. In several other states, where a similar scheme was tried, no adequate safeguards were imposed and the process of note issue degenerated into a vicious circle, whereby bonds were issued by the state against which notes were created, only to be exchanged for state bonds which were made the basis of another issue of notes. The system as operated in Illinois and Wisconsin, for example, proved a disastrous failure.

State-Owned Banks.—The experience of colonial history, fortified by that of the Revolutionary War, had led the framers of the Constitution to forbid the states to issue paper currency of any description. This prohibition weighed heavily upon the hearts of some of the states, whose political leaders were fervent apostles of inflationism; believing that a paradise could be achieved on earth if only they were free to issue enough currency to enable their citizens to buy all of those things which their hearts desired. It was, therefore, natural that an attempt should be made to evade the Constitution by the creation of banks owned and operated by the state, and, when the Supreme Court decided that the note issues of such banks were legal, there arose in the southern and western states an orgy of state-owned banking. Notes were issued freely upon the "faith and credit of the state"—but the faith proved to be unreasoning and the credit non-existent. The history of these institutions constitutes one of the blackest pages in the annals of the United States, for, with the single exception of Indiana, the experiments ended in utter bankruptcy, and spread ruin and chaos through the areas in which they had been made.

State Bank Notes.—Throughout the period that we have been discussing, the state bank notes constituted the only form of paper money in the United States, and it will already have

become apparent that it was a very unsatisfactory form. While the notes of the New England banks were circulating at par, those issued in Alabama and Kentucky were not worth the paper on which they were engraved—and between these two extremes were to be found innumerable varieties of notes, which passed current at constantly changing proportions of their face value. The merchant who carried on an extensive trade, even the individual who received a weekly wage and expended it on the necessities of life, was brought into contact with thousands of different kinds of paper money. But, while the business man was able to learn something of the actual value of the various notes, and so to save himself from some of the losses which would otherwise fall upon him, the man in the street had no such opportunities and he was, therefore, the worst sufferer from the chaos which pretended to be a monetary system. Some idea of the existing conditions can be gained from the complaint of a contemporary writer, who points out that, in 1863, there were more than 1,600 banks issuing notes, and that there were in circulation some 10,000 varieties of these notes, of which many were worthless because they were counterfeit, or because the issuing banks had failed.

The National Banking System.—Such a condition of affairs intensified the financial difficulties of the federal government when the Civil War broke out, and Secretary Chase took advantage of the war to suggest a federal banking system which should issue notes that were uniform in all respects. The idea had much to recommend it from the monetary angle —and there was the additional possibility that, if the new banking system should be modeled upon the free banking plan of New York, a market would automatically be created for the bonds which the government wished to sell, in order to raise funds to meet the expenses of the war. It would be interesting to speculate on the extent to which the evolution of banking, in all parts of the world, has been hastened by the

chronic poverty of kings and republics, but this is not the place in which to do it, and we must content ourselves with a recognition of the fact that the financial needs of the United States constituted one of the most important reasons for the passage of the National Banking Act in 1863.

Under the Act, any group of five or more persons might apply to the federal government for a charter, and, when incorporated, might issue notes against the security of United States Government bonds, which they were compelled to purchase and deposit with the Comptroller of the Currency at Washington. The primary feature of the Suffolk Banking System was also incorporated in the Act, since it was provided that National Bank notes were redeemable at the Treasury in Washington, and that each bank should deposit with the Secretary of the Treasury, for this purpose, a sum equal to 5% of its outstanding note issue. In addition, the notes were of course redeemable across the counter of the issuing bank, and they were to be received at par by all other national banks, and by the government. To create a clear field for the new currency, and to eliminate the chaotic circulation of the state banks, a tax of 10% was imposed in 1865 upon all notes issued by state banks, and since such a tax made note issue unprofitable, it amounted to a virtual abolition of all bank notes excepting those issued by national banks.

The Act of 1865 had deprived the state banks of the most important of their operations, and the immediate result was a rapid decrease in the number and importance of these institutions. But, at the same time, the experience of history would tend to suggest that the ultimate result would be a decrease in the importance of the bank note itself. When the Bank of England received the monopoly of note issue in the early part of the nineteenth century, the other banks found (under the pressure of compulsion) that they could still carry on a very profitable business with deposit accounts and checks. Even before the Civil War, it was apparent that the importance of

Table X. Development of State and National Banking Institutions, from 1864–1914

(Amounts in millions of dollars)

Year	National Banks				State Banks		
	Number	Capital	Deposits	Circulation	Number	Capital	Deposits
1864	139	15	19		1,089	312	
1865	638	136	221	67	349	71	
1866	1,582	403	552	213	297	66	
1867	1,648	420	588	291	272	65	
1868	1,682	420	562	294	247	66	
1869	1,628	419	585	294	259	67	
1870	1,615	426	555	293	325	87	
1871	1,648	435	517	296	452	111	
1872	1,790	460	617	318	566	122	
1873	1,950	483	611	336		43	111
1874	1,976	490	553	341		59	138
1875	2,027	496	694	331	551	69	166
1876	2,086	505	629	315	633	80	158
1877	2,082	497	631	292	592	111	227
1878	2,074	477	615	299	475	95	143
1879	2,051	462	707	304	616	104	167
1880	2,052	454	766	322	620	91	209
1881	2,095	450	1,018	317	652	93	261
1882	2,064	466	1,115	325	672	92	282
1883	2,308	485	1,080	315	754	163	335
1884	2,529	512	1,120	305	817	110	325
1885	2,664	524	1,002	280	975	125	344
1886	2,732	529	1,126	267	849	110	343
1887	2,875	551	1,188	202	1,413	141	447
1888	3,070	581	1,279	165	1,403	155	410
1889	3,150	594	1,382	144	1,671	167	507
1890	3,326	618	1,480	126	2,101	189	553
1891	3,573	658	1,515	123	2,572	209	557
1892	3,692	677	1,620	135	3,191	234	649
1893	3,784	690	1,778	146	3,579	251	707
1894	3,787	682	1,553	180	3,586	244	658
1895	3,737	666	1,719	169	3,774	250	712
1896	3,706	657	1,734	185	3,708	240	696
1897	3,661	647	1,655	211	3,857	229	724
1898	3,607	630	1,961	194	3,965	234	912
1899	3,590	621	2,319	207	4,191	233	1,164
1900	3,602	607	2,461	205	4,369	237	1,267
1901	3,942	632	2,718	299	4,983	255	1,611
1902	4,291	665	3,074	319	5,397	277	1,698
1903	4,766	731	3,308	335	5,962	302	1,814
1904	5,412	771	3,458	411	6,923	347	2,073
1905	5,833	808	3,989	486	7,794	379	2,365
1906	6,137	835	4,199	518	8,862	422	2,741
1907	6,625	902	4,177	602	9,967	471	3,068
1908	6,853	921	4,583	614	11,220	503	2,937
1909	6,877	947	5,010	658	11,319	416	3,338
1910	7,173	1,003	5,146	675	12,166	436	2,728
1911	7,301	1,025	5,490	697	12,864	452	3,747
1912	7,397	1,046	5,892	714	13,381	459	2,920
1913	7,509	1,059	6,052	727	14,011	483	3,081
1914	7,571	1,063	6,079	1,018	14,512	501	3,227

bank deposits was increasing rapidly, if the total volume of deposits was compared with the aggregate bank note circulation, and toward the end of the century the increase in the importance of bank deposits was such that the issue of bank notes diminished in importance to the national banks, while, by the same token, there was a tendency for state banks to rise to prominence again, despite the absence of power to issue notes. The developments of the period from the passage of the National Banking Act down to 1914 are illustrated in summary fashion by the figures presented in Table X.

Banking in Present-Day America.—Throughout this brief discussion, it is apparent that the regulations imposed by the government—both federal and state—have exercised a great deal of influence upon the development of banking in the United States. It is to governmental regulation that we must attribute the existence of state banks and national banks today, for the difference in these institutions is due entirely to the legislation under which each operates. Moreover, the restrictions which have been imposed upon both of these types of bank have led to the creation of many financial institutions which perform supplementary functions. Commercial paper houses and discount companies exist to coordinate the work of the commercial banks; investment banks and building and loan societies have developed to perform functions which the commercial banks could not legally assume. As a result, there exists in this country a variety of specialized institutions which is greater than that found in any other large country.

To enumerate and describe all of these institutions is not possible at this time. We must first obtain an understanding of the nuclear position of the commercial bank, and of the important developments in the field of commercial banking which the last two decades have witnessed. Yet it is necessary to remember, throughout the discussion, that there are in the

background many other institutions to which the commercial bank is more or less directly related.

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CHAPTER 12

THE NATURE AND FUNCTIONS OF A COMMERCIAL BANK

Confronted, as we are, by an infinite variety of financial institutions, it is necessary at the outset to establish some standards of classification, by which we can divide them into harmonious groups. Several possible criteria present themselves for this purpose, of which the most obvious, and least useful, is the legal status of the institution. On this basis, we should have three distinct groups: incorporated national banks, incorporated state banks, and unincorporated private banks. From the viewpoint of the economist, such a classification is worse than useless, because it is misleading. There is, at the present time, more diversity of function within each of the above groups than there is between them, since we might select particular institutions from each group which are almost identical in every aspect excepting the legal status.

The Functions of the Commercial Banks.—A more valuable criterion has been suggested to be the nature of the operations of the institutions,[1] and in this case also there are three groups. In the first place, there are the institutions operating on the *deposit principle*, and maintaining a continuous relationship with both their debtors and their creditors by means of current accounts. Such institutions bring together, in the course of their business, a large aggregate amount of funds derived from many different sources, but the extent of their lending operations is not limited to the amount of actual funds deposited with them, since they are able to lend their own credit. Secondly, come those institutions which operate on the principle of *mediation*, acting as an intermediary between

[1] W. H. Steiner, *Journal of Political Economy*, February, 1922.

the borrowers of funds and those who wish to lend. Within this group we should include not only institutions whose operations are purely brokerage, but also the much wider circle of institutions whose operations include the purchase of some form of credit instrument with a view to its resale in the very near future. Finally, we have institutions which operate on the principle of *suretyship,* performing a service vital to the financial organization by guaranteeing the validity of credit instruments, which might be of very little use without such a guarantee.

Many other criteria are available, by which such a classification could be made, but the grouping on the basis of the type of operations performed will be adequate for our purpose, since the commercial bank is indubitably an institution which operates on the deposit principle. The operations of the commercial bank today center entirely around what we know as "bank deposits"—the balances of those current accounts which the bank maintains with its customers, and through which it is able to perform its primary functions of:

1. Extending credit;
2. Furnishing a medium of exchange; and
3. Receiving deposits.

Each of these functions has been emphasized as the most important by some writers, but the consensus of contemporary opinion seems to incline to the above order of importance. For purposes of facilitating our discussion, however, we shall begin with the least important, since it is the most readily understood.

The Deposit Function.—The most satisfactory method of explaining the operations of a commercial bank is to observe the effect of its actions upon the balance sheet, since every transaction will give rise to two corresponding items under the headings of resources and liabilities. Let us suppose that, in a given community, Green, Jones, Brown, and Robinson should agree that it would be convenient to place their money in a

bank, and that they, together with various other individuals, set up the Alpha Bank. If each of the above four should deposit $10,000 in cash with the bank, then the balance sheet would read as follows:

ALPHA BANK

Resources		*Liabilities*	
Cash	$40,000	Deposits	$40,000

The new bank has received the sum of $40,000 in cash, and, in so doing, it has become the debtor of Green, Jones, Brown, and Robinson, who are each entitled to withdraw the full amount of their deposit at any time. But we may be sure that these individuals, and any other members of the community who follow their example, will not be willing to accept, in return for their cash, the obligation of a bank which has no resources of its own. The Alpha Bank must have capital, since only in that case could it inspire the confidence necessary to persuade people to enter into business relations with it. The amount of the capital should, moreover, bear some relationship to the amount of the business which the bank expects to transact, for, although no specific relationship can be prescribed in mathematical terms, it is clear that the capital of the institution represents the financial interest which its owners have in it. Should any contingency arise in the future, which would compel the bank to close its doors, the owners of the capital stock would not receive back any part of their invested funds until all of the creditors had received the full amount of money which was due to them on deposit account. The larger the capital stock, the greater is the financial stake of the owners in the success of the bank, and, in the United States, this has been made a matter of legal regulation. To take the example of the National Banks, the law provides that, while the capital may be as low as $25,000 in places with a population of 3,000 or less, the minimum amount is gradually raised until it reaches a requirement of $200,000 in places with a population of over 50,000 persons.

Let us suppose that the Alpha Bank has a capital of $50,000, and that it expends a sum of $10,000 on the purchase of adequate premises and suitable equipment. The balance sheet would then show the following situation:

ALPHA BANK

Resources		*Liabilities*	
Real estate and buildings	$10,000	Capital	$50,000
Cash	80,000	Deposits	40,000
	$90,000		$90,000

Furnishing a Medium of Exchange.—There does not appear, from the above discussion, any adequate reason why individuals should deposit funds with a bank, unless it were for safe-keeping, or in the hope of receiving interest. In practice, however, commercial banks do not generally pay interest on deposit accounts, nor do they undertake to keep the money deposited in the specific form in which they receive it. The deposited funds are received by the bank to be used in the ordinary conduct of its business, and the depositor obtains in return the undertaking of the bank to pay an equivalent amount on demand at any future time.

One advantage of a deposit account may, however, be found in the fact that commercial banking operations give rise to two forms of medium of exchange, bank notes and bank checks. As we have already seen, the bank notes issued by national banks are subject to a good deal of legal regulation, in that bonds must be purchased by the bank and deposited with the Comptroller of the Currency, while a Gold Redemption Fund amounting to 5% of the issue must be maintained. Let us assume, however, that the Alpha bank, having received another $10,000 in deposits, decides to purchase $25,000 of United States Government bonds at par, deposits in Washington the necessary redemption fund, and issues bank notes to its customers. We should then have to make the following changes in the balance sheet:

ALPHA BANK

Resources		*Liabilities*	
Real estate and buildings	$10,000	Capital	$50,000
U. S. bonds	25,000	Deposits	25,000
Redemption fund with U. S. Treasurer	1,250	Bank notes	25,000
Cash	63,750		
	$100,000		$100,000

The depositors, who left cash with the bank, have received in return deposit accounts aggregating $25,000 and bank notes aggregating $25,000. These bank notes are issued in varying denominations, and constitute a medium of exchange which is easier to handle, and more convenient to carry, than the metallic coin which was deposited with the bank; and, since they are redeemable at the option of the holder, metallic coin can always be obtained in exchange for them if it is needed. But, as we saw in the last chapter, the importance of national bank notes has greatly declined, and the bank check has come to be a medium of exchange of infinitely more importance. So general has the use of the bank check become that it is estimated that, at the present time, between 80% and 90% of all the transactions in the United States are settled by the use of this medium of exchange.

The owners of the $25,000 of deposit accounts are in a position to draw checks upon the bank at any time, and for any amount, and as they will customarily make all, excepting a very small number, of their payments in this manner, the ownership of such an account comes to be recognized as a distinct convenience in both business and personal transactions. These checks are, like the bank notes, an obligation requiring the bank to pay cash on demand, but in actual practice very few of them are ever presented for payment. In the vast majority of cases they are set off against one another on the books of the banks, and no cash changes hands at all. Thus, if Brown should draw a check for $1,000 to the order of

Robinson, in settlement of a business transaction, and Robinson should deposit the check to the credit of his account at the Alpha Bank, the settlement would be affected by debiting Brown's account with the sum of $1,000, and crediting Robinson's account with a like amount. It is probable, however, that there are other banks in the community. If, therefore, Jones should draw a check for $1,000 to the order of White, who deposited the check to his account at the Beta Bank, then the latter would present it to the Alpha Bank for payment. Such a transaction would reduce the amount of the deposits of the latter institution by the amount of the check, and would similarly reduce the amount of the cash on the assets side.

In actual practice, there are not two, but many hundreds of banks in the community, and each of them is daily receiving a large number of checks drawn upon the others, while it is, at the same time, compelled to meet checks which are drawn upon itself, and have been deposited with other banks. Even so, the amount of cash which changes hands as a result of these innumerable payments by check is comparatively small, owing to the fact that the principle of set-off is still applied.[2] The checks drawn on the Alpha Bank and deposited with the Beta Bank, will be canceled against those held by the former which have been drawn upon the latter, and only the net difference between the two totals will be paid in cash. The obvious convenience, to all parties, of this method of payment is an adequate reason to account for the fact that the bank check has become the most important medium of exchange in use in the United States today.

The Extension of Credit.—The commercial bank resembles any other business enterprise in that it aims to make a profit for its owners, and, although the two functions already discussed are of great importance to the community, they do not produce any profit to the bank. The bank's earnings are derived primarily from the extension of credit, a function of

[2] See Chapter XV for a more detailed discussion of this question.

such importance, not only to the banks, but to the community at large, that it is generally regarded as fundamental to the commercial banking system, and even to the whole financial organization.

Let us suppose that Robinson wishes to borrow $20,000, for three months, in order to purchase raw materials, and offers his promissory note to the bank for that sum. The bank will deduct the interest at the current rate (say 5%) and credit Robinson's account with $19,750. At the same time Green, who is anxious to borrow for the same purpose; asks the bank to discount a $30,000 bill of exchange which he holds, but which will not be due for three months. The process of discounting is very similar to that of loaning, the only difference being that in the first case the bank loaned the money in return for the obligation of its customer, while, in the case of a discount, it purchases the obligation of a third party bearing the customer's indorsement. Green will, therefore, receive the present value of the bill, or $29,625. In a similar fashion, the bank purchases 5% bonds at par to the amount of $20,000, and $30,000 of three months' commercial paper, which it obtains for $29,625 (i.e., at a discount of 5%). In both of these cases it pays for its purchases by crediting the appropriate amount to the deposit account of the seller. If the bank should also find it convenient to deposit $10,000 in another bank, in some distant city, then the balance sheet, including all of these transactions, would be as follows:

ALPHA BANK

Resources		*Liabilities*	
Real estate	$10,000	Capital	$50,000
U. S. bonds	25,000	Undivided profits	1,000
Other investments	20,000	Bank notes	25,000
Due from U. S. Treasurer	1,250	Deposits	124,000
Due from banks	10,000		
Loans and discounts	80,000		
Cash	53,750		
	$200,000		$200,000

We might continue this process indefinitely, until the Alpha Bank statement resembled the combined statement of all the national banks in the United States, which appears in Table XI. Enough transactions have, however, been given to show

TABLE XI. STATEMENT OF CONDITION OF ALL NATIONAL BANKS, AS REPORTED TO THE COMPTROLLER OF THE CURRENCY ON OCTOBER 3, 1928

(In thousands of dollars)

Resources		
Loans and discounts		$15,116,869
Overdrafts		15,606
U. S. Government securities owned		3,012,584
Other bonds, stocks, and securities owned		4,104,022
Customers' liability on account of acceptances		429,034
Banking house, furniture and fixtures		732,455
Other real estate owned		122,773
Lawful reserve with Federal Reserve Banks		1,467,535
Items with Federal Reserve Banks in process of collection		567,942
Cash in vault		364,281
Amounts due from other banks and bankers		1,556,235
Exchange for clearing house		989,920
Outside checks and other cash items		99,213
Redemption fund and due from U. S. Treasurer		33,261
Other assets		313,750
TOTAL RESOURCES		$28,925,480
Liabilities		
Capital stock paid in		$ 1,615,744
Surplus fund		1,450,499
Undivided profits		549,624
Reserve for dividends, contingencies, etc		58,055
Reserves for accrued expenses not yet paid		81,464
National bank notes outstanding		648,548
Due to Federal Reserve Banks		49,745
Amount due to other banks and bankers		2,843,472
Certified checks and cashier's checks outstanding		602,326
Letters of credit and traveler's checks outstanding		12,389
Demand deposits	$11,073,155	
Time deposits	8,310,891	
U. S. deposits	113,333	
Total deposits		23,005,311
Bills payable and rediscounts		707,581
Liability in regard to acceptances		222,508
Acceptances executed for customers		420,754
Other liabilities		165,392
TOTAL LIABILITIES		$28,925,480

their effect, and we must now examine the process a little more carefully.

The Nature of Bank Credit.—Green and Robinson, and all of the others who borrowed from the bank by the various methods that have been mentioned, will require an immediate command over purchasing power, to enable them to enter into the business operations which they are contemplating. It is possible, therefore, that they might require the bank to give them cash to the full amount of their loan—and in this case our bank would obviously be forced to close its doors, since the total amount of the deposits, which must be paid in cash on demand, is, in the last statement of the Alpha Bank, more than twice the amount of the available cash on hand.

In practice, however, the borrowers will not desire to obtain cash. All that they need is some convenient medium of exchange with which to make the various payments that face them in the immediate future, and, as we have already seen, a check drawn against a bank deposit constitutes the customary, and most convenient, medium of exchange that is available today. The loans will, therefore, be made by crediting the appropriate amounts to the accounts which Green, and all the other customers, maintain with the bank. Against these augmented balances, the borrowers will, from time to time, draw checks to meet their individual payments as they become due, and, while some of these checks will be deposited with the Alpha Bank, others will be deposited with other banks in the community and these banks will present them to the Alpha Bank for payment. But the other banks in the community will have been making loans in the same way, and the greater part of these checks will, in normal times, be canceled against one another, and very little cash will be needed to meet them.

The commercial banking system rests upon a recognition of this fact, that the depositors will generally prefer to leave their balance with the bank, and make the necessary payments

by means of check. Because of this, the bank is enabled to make loans to an amount many times larger than the sum of cash which has been deposited with it, and it will already have become apparent that *the greater part of the items appearing on the liabilities side of the balance sheet, under the heading of deposits, is created, not as a result of cash deposited with the bank by customers, but through the making of loans or discounts by the bank* to those customers. Whereas the Alpha Bank had received cash deposits to the amount of $50,000, more than one-half of the total of its deposits arose directly out of its lending operations, and, in the actual case of the combined statement in Table XI, we find that all of the cash items amount to less than one-quarter of the total deposits, while the actual cash on hand is less than 2% of that total.

The commercial bank is lending, not cash, but its own credit. When Robinson borrows from the bank, all that happens is that the bank receives Robinson's promise to pay a given sum at the end of three months, and gives him in exchange its own promise to pay a lesser sum on demand. There has been an exchange of the bank's credit for that of Robinson—and the borrower is willing to pay something for that exchange, because of the fact that the credit of the bank is better known to the community than that of the borrower. But this statement, true as it is, conceals a fact of vital importance. The promise-to-pay of the individual may be of little value if he is not well known, but, even if his credit standing is of the very highest, his promissory note will not be regarded as money. It is only a promise to pay money at some future time, and, although it may be a very good investment, it will not circulate as a medium of exchange.

Bank credit, on the other hand, is convertible into common money on demand, and, because of this, actual cash will not be demanded, and a bank check is everywhere recognized as money. It is clear, therefore, that in the process of exchanging its own credit for that of a borrower, the bank has mone-

tized credit. *It has created purchasing power which did not exist before,* since it has supplied the borrower with a means of paying his debts, without in any way reducing the amount of money in the hands of the other members of the community. Each addition to the existing volume of bank loans, therefore, results in a net increase in the total supply of money in the community, and any diminution in that volume will decrease the total volume of money. For this reason the operations of the commercial banking system exercise a tremendous influence upon the general level of prices and the value of the monetary unit, but their power to create or destroy purchasing power is subject to certain practical limitations.

Factors Limiting the Extension of Credit.—If there were only one bank in the community, and all payments were made by check, there would be no limitation of any kind upon the extent to which that bank might create new purchasing power. In practice, however, such a condition does not exist. For a variety of reasons, which will receive attention later, individuals do not make all of their payments by check, but use cash for some of them, so that the bank must always keep on hand a certain reserve of common money with which to meet the demands of those customers who require cash. While, over a period of time, the cash which it receives from such customers as retail shopkeepers, railway companies, and others, will offset the cash which the bank must pay out to its other customers, this is not the case on any particular day, and, for this reason, there must be some cash on hand if the bank is to maintain its solvency. For we must remember that, in the case of a bank, solvency depends not only upon the ultimate adequacy of the total assets to meet the total liabilities, but also upon the *immediate* ability of the bank to meet in cash all of those demands which are made upon it.

The actual size of the *reserve* which would be adequate for a given bank depends upon a large number of factors, among

which would be included the nature of the business operations of its customers, the season of the year, the condition of general business activity, and many others. A reserve which would fully protect one bank might be totally inadequate for another, and, even in the case of a single institution, the amount of reserve needed would vary considerably from time to time. While, in the majority of foreign countries, the size of the reserve is left to the discretion of the banker, this has not been true of the United States, where both the federal and state governments have imposed minimum reserves below which the banker might not go. Such a regulation is designed, in part, to limit the expansion of bank credit, but it must also be regarded, in part, as aimed at the establishment of banking standards for those small institutions of which the destinies are guided by men of very limited financial experience. Under the National Banking Act, banks are divided into three groups. Those situated in the *central reserve cities* (New York and Chicago) must maintain a minimum reserve of 13% of their demand deposits; banks in a large number of other towns, which are designated *reserve cities*, must hold reserves of 10% of their demand deposits; while all other banks are grouped generically under the heading of *country banks*, and compelled to keep a reserve amounting to not less than 7% of their demand deposits.

While such a reserve would, in normal times, be ample to meet the cash requirements of a bank's customers, it may sometimes be depleted for another reason. In a community in which several banks are in operation, if one of them (let us say the Alpha Bank) should extend credit to a greater extent than did the others, it is probable that the number of checks drawn upon it, and deposited with the other banks, would be substantially greater than the number of checks drawn upon the other banks which had been deposited by customers to the credit of their accounts at the Alpha Bank. In this case, the Alpha Bank would find itself compelled, day after day, to draw upon its

reserve in order to meet the demands of the other banks, so that the reserves of the other banks would be increased at the expense of its own. As a result of this process, either the Alpha Bank would be compelled to limit the amount of its loans, or else the other banks might be persuaded to grant additional amounts of new loans—and in either case the drain upon the reserve of the Alpha Bank would cease only when the reserve ratios of all the banks were approximately equal. It is clear, therefore, that the credit extensions of a given bank are limited to some extent by the operations of the other banks, but this does not impose any limitation if all of the banks should, at the same time, decide to increase the volume of their loans and discounts. For the banking system as a whole, the only limitation placed upon the extension of credit is the net volume of the reserves, but, before entering upon a further discussion of that subject, we must complete the picture of the commercial bank by pointing out that it performs some incidental operations for its customers, in addition to the three important ones of receiving deposits, supplying a medium of exchange and extending credit to meet the needs of the community.

Incidental Services of Commercial Banks.—Owing to the fact that a bank must provide safe-keeping for its own assets, it is natural that it should have come to perform the same service for its customers. In some cases it may rent out to customers individual boxes in its vault; in others it assumes the position of custodian of the property; but, whatever the method adopted may be, the commercial bank will often provide facilities for the safeguarding of money, jewelry, investments, or other valuables.

In the second place, the technical experience of the bank, and the nature of its financial operations, make it particularly fitted to act, not only as a simple money-changer, but also as a professional dealer in the foreign exchange market. Almost

all commercial banks will change money for their customers, either purchasing or selling a variety of foreign currencies, but only a few of the larger banks in the most important financial centers are interested in professional dealings on the foreign exchange market. This work is highly specialized, and demands an amount of experience and skill which the average banker has not attained, together with a well developed network of correspondent banks or branches in foreign countries.

Thirdly, the commercial banks will transfer funds from one part of the country to another, and collect drafts and other credit instruments which are payable to their customers. The machinery which has been developed for the clearing and collection of checks[2] enables them to perform this service with a minimum of inconvenience and expense, since the operations are identical to those which they are continually performing on their own account.

Commercial Banks and Trust Companies.—The trust company came into being during the latter part of the last century, to perform certain specialized functions which were not within the scope of any of the existing financial institutions. In the course of its development, however, it has come to assume the functions discussed above as being typical of a commercial bank, although, as they invariably received their charters from the state, they were not able to issue notes. The addition of deposit accounts, and credit operations, to the numerous other transactions which they performed, has tended to make them a very valuable type of institution; and this, combined with a lesser amount of legal regulation than existed in the case of the commercial banks, has caused them to develop with phenomenal rapidity. As a natural result of the encroachment of the trust companies, the commercial banks retaliated by taking to themselves the special fiduciary operations of the trust company. The laws of several of the states were amended

[2] See below, Chapter 15.

to enable them to do this, and, after the National Banks had received a similar permission, under the amendment to the Federal Reserve Act which was passed in 1918, the rest of the states fell into line.

At the present time, therefore, we have trust companies which carry on a large volume of commercial banking business, together with state and national banks which have developed a considerable activity in their trust departments. While there are still many banks which have not entered the trust company field, particularly in the case of the smaller institutions, there are no trust companies which refrain from carrying on the characteristic operations of commercial banks. It will suit our convenience, therefore, to regard the trust company as a commercial bank, looking upon the specialized fiduciary operations as additional services rendered by it (and by many commercial banks) to their customers.

These fiduciary functions may be divided into two classes: first, those in which the institution acts as trustee for an individual, and second those in which it acts as trustee for a corporation. In its capacity of *individual trustee,* the bank may assume complete charge of an individual's fortune, attending to the custody of the investments, and collecting the income. It may act as administrator or executor of an estate; as a trustee under a bequest; or in any other fiduciary capacity in which an individual might serve. But, whereas an individual may die, or may be of limited experience or capacity, the trust company, or bank, has that impersonal immortality which is characteristic of corporations. It is, moreover, highly skilled in financial matters, and fully conversant with all the legal details of its business, so that it can, in general, render a very much more satisfactory service than would be possible in the case of an individual person.

Primary importance attaches, however, to the services which it performs as *corporate trustee.* The growth of the corporation as the dominant type of business enterprise, and

the phenomenal increase in the size of the corporate unit, have made it difficult, if not impossible, for an individual to carry out the fiduciary operations necessary for corporate activity. A trustee is needed who is highly skilled in both the legal and financial fields, one which has the same permanence as the corporation, and which is in possession of resources great enough to inspire confidence in those with whom it deals. These conditions are all satisfied by the modern trust company, and by the trust departments of the larger banks, and, as a matter of fact, the phenomenal growth in trust business has been largely due to the increase in corporate activity since the beginning of the present century.

As to the nature of the services which the trust company renders, we have already observed the need of such a trustee in the case of large bond issues, and in connection with the sale of equipment trust certificates. In both of these cases, the institution is acting as trustee for the creditors of the corporation, and, in the event of any default on the part of the latter, the trustee is charged with the duty of taking the steps necessary to protect the interest of those creditors. In the case of a mortgage bond issue, this would involve the foreclosure of the mortgage, so that the trust company would take possession of the assets of the company, and continue its operations until such time as a committee of bondholders had been formed to assume the responsibility. In the case of equipment trust certificates, or collateral trust bonds, the trustee would have to dispose of the security at the best possible price, in order to reimburse the holders of the securities out of the proceeds.

There are also matters in which the trust company acts as the trustee for the corporation. Under this head would be included its operations as *transfer agent,* or *registrar,* of the corporate securities. As registrar it would keep the register showing the names and addresses of the owners of stock in the company, being compelled to furnish this information to the latter at the time of dividend payments. The registrar will

also certify the validity of the stock certificate which is issued to the stockholder. In practice, the transfer agent is a different institution from the one which acts as registrar, for it is the duty of the transfer agent to destroy the old certificate, and issue a new certificate for an equivalent number of shares, whenever stock is bought or sold—thus providing the information on which the registrar may make the necessary changes on its records. If both offices were combined in one institution, it is clear that the possibility of fraud would be greatly increased, and, for this reason, the two are almost always separated in practice.

These fiduciary operations are of vital importance to the corporation, and so are the commercial banking operations which were discussed earlier in the chapter. An institution which offers all of these services is, therefore, in a strong position to attract the financial business of corporations, and we might include, as the last service rendered by such an institution, the fact that it may act as fiscal agent, carrying out all of the operations concerned, not only with the capital of the corporation, but with its receipts and disbursements. In this case, it would handle the payment of wages and salaries, attend to the payment of interest and sinking fund on bonds and notes, meet rent and taxes as they fall due, and collect the income accruing from any earning assets which the corporation may hold. The bank or trust company can perform all of these services more easily and cheaply, than can the corporation itself, so that there is an economic advantage to both parties in such an arrangement.

Suggestions for Further Reading

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CHAPTER 13

BANK CREDIT AND BUSINESS FLUCTUATIONS

The preceding discussion of the operations of the commercial bank is based upon the hypothetical assumption that the economic activity of the community is comparatively stable. But we have already had occasion to observe that, in practice, the "normal state of business activity is a state of change," and there is a very close connection between the credit operations of the commercial banks and the fluctuations in business. Each reacts upon the other, since, for example, liberal extensions of bank credit tend to encourage business prosperity, while, on the other hand, increased activity on the part of business leads to a larger demand for bank credit.

If we omit the purely sporadic fluctuations, which result unexpectedly from such things as an earthquake or a particularly good agricultural harvest, we may distinguish between three distinct types of fluctuation which characterize the general economic activity of the country, viz.:

1. Changes due to secular trend;
2. Seasonal variations; and
3. Business cycles (or trade cycles).

Each differs from the other two in its nature, and in the effects which it has upon the banking system and the economic organization of society, so that it will be convenient to describe them individually.

The Secular Trend.—The first type of fluctuation need not detain us very long. Secular trend is nothing but the long-term movement in business activity, which continues in the same direction during several years or even decades. Begin-

ning after the Civil War in the United States, and at other periods in other countries, there has occurred a great increase in the extent and intensiveness of business activity. New geographical areas have been opened to trade, new supplies of raw materials drawn upon, and new markets developed—while, at the same time, technological improvements and scientific research have caused a mechanization of industrial processes which has tended to reduce the need for individual craftsmanship. Mass production, and geographic specialization of economic activity, have become the keynotes of our industrial age, and the resultant saving in economic energy has enabled the world to procure a tremendous increase in the volume of its physical wealth. Panegyrists have written in eulogistic terms of the progress that is evidenced by the fact that, decade after decade, mankind has tended to increase, not only the total amount of his physical possessions, but also that portion of his goods which is used as capital, in order to increase still further the wealth of the world. Whether or not we wish to regard this as "progress" depends entirely upon the philosophical standards which we adopt, but the facts are clear. A rapid and continuous expansion has taken place in business activity and, despite temporary variations from the regular path of increase, the direction has been sharply upward.

At the same time, we have witnessed a similar increase in the number and size of the financial institutions which minister to the needs of business enterprise. Sometimes the development in the field of banking has progressed more rapidly than the growth of other forms of economic activity. Occasionally financial evolution has lagged in the rear. On the whole, however, there are no problems that need detain us in regard to the adequacy of bank credit to facilitate that growth of business which we have called the secular trend. In discussing the problems connected with gold production, we found that some doubts exist as to the sufficiency of the supply of bank credit to meet the requirements of business in the future, but that

question is one which will receive treatment in a later chapter and, for the immediate present, the secular trend of business activity is comparatively well provided for, so far as the supply of bank credit is concerned.

Seasonal Variations.—Seasonal variations are those which recur regularly from one year to another, and naturally they tend to differ somewhat from one business to another. A department store in a large city will usually find that business is most active during the periods just before Easter, and just before Christmas, and that things tend to be somewhat quieter during the remaider of the year. A farmer will be at his busiest during that part of the spring when he is planting his crops, and during the autumn months when he is engaged in harvesting. On the other hand, a hotel in a summer resort will find the peak of its activity during the summer months, and will be comparatively empty during the remainder of the year. Almost all business enterprises experience a seasonal variation in their activity, although the extent of that variation, and the precise period of the year at which it occurs, will vary from one enterprise to another.

Business enterprises, no matter in what field of economic activity they may be engaged, are dependent in some measure upon the commercial banks for a portion of the liquid funds which they use. All of them will need both credit and common money to carry on their operations, and the need for funds will be greatest at the time of maximum activity. For this reason the seasonal variations of business, as a whole exercise a marked effect upon the money market. Professor Kemmerer, as the result of a careful study[1] of this phenomenon, has pointed out that there are five distinct seasonal movements during each year. Throughout January and the early part of February, there is a pronounced "easing up" after the activity of the holidays. Business as a whole is dull, and the demand

[1] E. W. Kemmerer, *Seasonal Variations in the Relative Demand for Money and Capital in the U. S.*, National Monetary Commission.

for funds is small. From the middle of February until the early part of April, however, the demand for funds increases markedly on account of the planting activity in the agricultural areas, and of the renewed industrial activity which follows upon the opening up of communications as the cold weather passes. The third movement is a weakening of the market which lasts throughout the rest of the spring and summer. Activity is comparatively low in both the agricultural and industrial fields, and the demand for funds falls off considerably.

From August until the beginning of October, we have the crop-moving period. The harvesting of the crops, and the expense incurred in transporting and marketing them, cause a great increase in the demand for funds throughout the agricultural areas. Funds are drained from the financial centers of the East to meet the needs of the Middle and Far West, but, despite this movement, interest rates rise during this period to the highest point for the whole year. Finally, the fifth period extends from the first week of October until the end of the year. It is a period of some uncertainty, and the demand for funds falls off somewhat from the high level reached during the crop-moving period, but industry is very active and merchandising tends to reach the highest point of the year just before Christmas. The demand for funds, therefore, continues high until December and then falls off somewhat.

The above description is characteristic of the New York market, and will differ slightly from that experienced in the other markets of the country. The differences are less important, however, than the fact that the commercial banks are called upon to meet a demand for funds which varies considerably from one part of the year to another. But these seasonal movements recur from year to year with substantial regularity. They can be foreseen with a good deal of accuracy, and adequate provision can, therefore, be made by the banks to meet the increased demands of their customers for funds. While the actual effect of these variations upon the operations of the

commercial bank is so similar to that of the business cycle that the two can well be discussed together, the problem of the seasonal demands is very much less serious than that presented by the cycle. Naturally, financial conditions will be more stringent toward the end of the year than they are during the summer, but the matter could well be taken care of by the banking system, were it not for one fact. The supply of common money in the United States has been very inelastic in the past. While the quantity of metallic coin and government paper money in circulation was, for all practical purposes, invariable during short periods of time, the volume of national bank notes could not easily be expanded to meet an emergency. The total supply of United States bonds, against which such notes could be issued, was strictly limited and, owing to the formalities connected with their issuance, several days, or even weeks, might elapse between the time at which a bank decided to issue notes and that at which it was in a position to place them in circulation. This did not prevent the banks from increasing the size of their note-issue in preparation for the increased demands for common money during the autumn months, but it did tend to prevent any substantial contraction of the note issue when the autumn demand had passed.

The only elastic form of purchasing power was bank credit, and it was upon this that the burden of meeting the seasonal variations in demand principally fell. A farmer who needed $5,000 to market his crop could discount his promissory note with his banker, which, in granting the loan, would create the additional purchasing power that was temporarily needed. When the process of marketing had been completed, and the farmer had received payment for his crops, he could meet his note, and the additional purchasing power would pass out of existence. It was by this method that the increased need for funds was met and, as a result, the commercial banks usually had, in the autumn, a smaller reserve ratio than that which normally prevailed—so that at this period of the year they were

less able to resist pressure which might be brought to bear for other reasons.

The Business Cycle.[2]—In addition to the secular trend and the seasonal variations, business activity is characterized by a series of booms and depressions. At some times, business is more active than it is at others, and the study of economic history reveals periods in which business was highly prosperous, and others when it appeared almost stagnant. The ebb and flow of business activity is a rhythmical movement, and good times follow bad with substantial regularity—a fact which was recognized some two centuries ago by Lord Overstone, who wrote: "The state of trade revolves apparently in an established cycle. First we find it in a state of quiescence, next improvement, growing confidence, prosperity, excitement, overtrading, convulsion, pressure, stagnation, distress, ending again in quiescence." To this rhythmical motion, so characteristic of a highly developed business economy, the name business cycle has been given. This term does not, however, connote any regularity of time by which the fluctuations may be foreseen, for individual cycles have varied in length from less than two to more than ten years, but it is intended to bring out the fact that the various phases of the cycle follow one another regularly, and that the cycle itself is self-generating, in that the conditions which prevail in any particular phase of it contain the forces that operate to produce the following phase.

Since this phenomenon has been observed for over a century, and in every country which has attained a high stage of economic development, we naturally find that many different explanations have been offered to account for it. These theories may be based upon cosmic energy, as in the case of W. Stanley Jevons, who attributed the business cycle to the astronomical variation in the position of the sunspots, while—to take the other extreme—they may depend entirely upon per-

[2] This description is based largely upon the scholarly and extensive research made by W. C. Mitchell, and published in his various works.

sonal emotions, as in the case of the explanation offered by Dr. Hexter, who suggests that the fluctuations in business activity are dependent upon the emotional effects exercised upon the business man by the periodic occurrence of marriages, births, and deaths. Between these extremes are to be found innumerable other theories, which are offered as explanations of the cause of business cycles,[3] and because of their multitude we cannot discuss them here. Our purpose will be better served if we ignore all theories of causation, and devote our attention to a study of the nature of the business cycle itself.

Since the cycle is both continuous and self-generating, we must break in at some point, and in so doing we must, for the moment, assume the existence of those conditions which remain as a legacy from the preceding phase. Beginning, then, with the *revival* in business activity after a depression, we find that costs of production and the general level of commodity prices are unusually low. Both labor and management are highly efficient, and business enterprises are being run as economically as possible, while in the case of the commercial banks the reserves are unusually large and the ratio of those reserves to deposit-liabilities is particularly high. The general rates of interest, therefore, tend to be low, and bank credit is easily obtainable. Such a condition of affairs is conducive to increased activity, and, either as a result of some fortuitous happening (such as a large harvest) or of the gradual reduction of existing stocks of goods by the natural process of wear and tear, the demand for certain kinds of goods will increase. Beginning with a few enterprises, or a few lines of economic activity, an increase in the physical volume of business becomes apparent and, as the various business enterprises are closely linked to one another, the revival spreads rapidly throughout the whole economic organization. Employment increases, and business demands an increasing quantity of funds with which

[3] See W. C. Mitchell, *Business Cycles: The Problem and Its Setting*, pp. 3–42, for a good summary of the various theories.

to carry on its operations. Such a revival is, moreover, cumulative, since an increased demand for finished products causes an increased demand for raw materials and labor, while the increased money income of the population leads to an increase in the demand for finished goods.

The profits of business enterprises are increasing rapidly, because every increase in the physical volume of production tends to reduce the unit cost at which the goods can be placed on the market. But, as the demand continues to increase, there comes a time when any further increase in the volume of business will necessitate increased productive equipment, the cost of obtaining which would tend to increase the expenses of production. As a result, prices rise, and business passes from the stage of revival into that of *prosperity*. The rise in prices does not, however, put a stop to the steadily growing demand for goods, but rather accentuates the demand, and so causes a rise in the prices of other goods and services. All prices tend to rise, but they do not rise proportionately: wholesale prices rise more rapidly than retail prices; the price of raw materials rises faster than that of partly finished goods; and the latter faster than the price of the finished product. Wages, rents, and certain other payments made by the entrepreneur, tend to lag behind the selling prices of his goods, so that a substantial increase takes place in the profits of the business enterprise, and business men become increasingly optimistic and enter into larger and larger commitments in the hope that profits and prices will both continue to increase.

As this process goes forward, however, numerous strains become increasingly apparent in the business structure, owing to the fact that all business enterprises are not equally prosperous. In the first place, there is a gradual increase in the cost of doing business. Wages rise, and labor becomes less diligent, because the number of jobs is in excess of the men available to fill them. Raw materials increase in price and, to augment the results of these factors, there is a marked de-

cline in the efficiency with which business is carried on. Simultaneously, there gradually develops a financial stringency which limits the supply of funds available to meet the needs of business, and the rising rate of interest, which must be paid in order to obtain the use of these funds, acts as a distinct check upon economic activity by cutting heavily into prospective profits. The intensification of business activity has, moreover, produced a substantial increase in the physical volume of goods which are offered for sale on the market, and if the prices of these goods are continuously raised to protect the profit margins of the business enterprise, it becomes apparent that all of the goods cannot be sold. The amount of purchasing power in the hands of the consumers does not increase as rapidly as the pecuniary volume of business, and this fact imposes a limit upon the extent to which prices can be raised.

These influences operate to a varying extent upon different enterprises. At one end of the scale we have public service corporations, which are legally prohibited from raising their selling prices at all; while at the other extreme would be the manufacturer of a popular novelty who might, if the demand were sufficiently inelastic, be able to raise his prices successively, and so protect his profit margin for a long while. As a result of this situation, there are some enterprises whose profits are still increasing toward the end of the period of prosperity, while others have already experienced substantial declines in the profit margin, and may even have incurred losses. But the latter group becomes increasingly important as time passes, and the aggregate profits of business enterprises tend to increase at a much slower rate, or even to decline.

Such a decline in profits not only causes a decline in dividends; it leads to a weakening of business confidence. The valuation of a business enterprise, for credit purposes, is based largely upon the amount of its present profits, capitalized at the current rate of interest. A decline of profits, coupled with a rising rate of interest, would reduce this valuation in a

marked degree, so that creditors begin to lose confidence in their debtors and demand repayment of outstanding loans. In order to comply with such a demand, the debtor must do one of three things: he may bring pressure to bear upon those who owe him money; he may borrow from another source; or he may attempt to sell goods. Should he adopt the first course, he tends to break down business confidence even further, and to accentuate the problem, while the success of his attempts to borrow the necessary funds would augment the credit stringency. In order to sell goods immediately, it will probably be necessary to cut prices somewhat, in which case the debtor weakens the market for other enterprises. In any case, the efforts which the debtor makes to extricite himself will react adversely upon other business enterprises, and so tend to produce a general weakening of business confidence. Business is thus brought to a standstill, and the *crisis* has come. At such a time, the dominant motive of the business man is to maintain his solvency, and to this aim all other thoughts are subordinated.

A period of *liquidation,* therefore, ensues, during which prices are rapidly depressed by the attempts made to dispose of the existing stocks of goods. Wages tend to fall somewhat, although less rapidly than prices, and unemployment increases. Since the supply of goods is large, and demand is small, the physical volume of production declines rapidly as soon as existing commitments have been met. Some business enterprises will go into liquidation, particularly those which were organized by inexperienced persons during the preceding period of prosperity, but there need be no wave of bankruptcies. The liquidation is a cumulative process, spreading from one line of business to another along the same avenues as those by which the revival spread itself, and gradually business passes into a depression.

The period of *depression* may be described as one of comparative quiescence. Once liquidation has proceeded far enough

to enable the business enterprise to meet its more pressing obligations, there is no further incentive to activity. Optimism has given way to pessimism, and the physical volume of business remains comparatively low. But, if the business enterprise is to keep its head above water during this period, it must be operated as efficiently as possible, so that the period of depression is characterized by much overhauling of equipment, and much changing of the methods of operation. Inefficient machinery is scrapped and inefficient workers are discharged; the efficiency of both management and workers increases considerably and the cost of doing business is greatly reduced. Gradually the existing stocks of commodities are depleted by consumption, and business comes back again to the point at which our narrative began.

Bank Credit and the Business Cycle.—The cyclical fluctuations in the physical volume of business resemble the seasonal variations, in that they cause changes in the demand for funds. And since, as we have already seen, the supply of common money in the United States has been particularly inelastic, the increase or decrease in the total volume of purchasing power is dependent upon the credit policy of the commercial banks. There is, therefore, a very close relationship between the total quantity of bank credit in the community and the condition of business activity, so close, indeed, that some writers have suggested that the business cycle itself is primarily due to the credit operations of the banking system. Without subscribing to this extreme viewpoint, we may well admit the importance of bank credit and attempt to see the part which it actually plays.

At the end of the period of depression the banks are in a particularly strong position. Almost all of the loans made during the earlier period of prosperity have been liquidated, reserves are comparatively large, and, as business is not very active, there is little demand for bank credit. With reviving

business activity, however, the demand for funds increases; and, as the general level of interest rates is low, business enterprises borrow heavily from the commercial banks. Some expansion of the total volume of purchasing power is highly desirable, because the increase in the physical quantity of goods would otherwise cause a fall in prices, unless some change should occur in the willingness of the people to hold stocks of money. There is no reason for us to expect such a change in popular psychology; and since a declining price level would tend to kill the incipient revival in business activity, an increased extension of bank credit is necessary.

The amount of that increase, and the rate at which it should be made, are, however, very complex problems of banking policy. If the volume of credit increases faster than the physical volume of business, and no change occurs in the unspent margin of society, the general level of commodity prices will rise. Such an increase in the price level acts as a powerful spur to business activity, and tends to accentuate the prosperity, but an overexpansion of credit makes the ultimate crisis so much the more serious that it should be avoided if possible. In theory, an effective and scientific control of bank credit might be able to modify these fluctuations, but in practice the banks are just as anxious to lend as are the business enterprises to borrow. As a result, the increase in the volume of credit proceeds much faster than the increase in the physical volume of production, thus producing that increase in prices which is so characteristic of the business cycle. Once this rise in prices becomes generally apparent, however, it will proceed more rapidly than might be expected from the amount of the increase in the total volume of purchasing power. The willingness of people to hold stocks of money will decrease, since it is more profitable to hold stocks of goods, and this change in popular psychology will augment the influence of the increased quantity of bank credit in raising prices.

But people do not make all of their payments by means of checks. Convenience or custom leads them to use cash for certain classes of transactions and, as prices rise, it becomes necessary for the individual to carry a larger sum of common money about with him. The commercial banks will, therefore, be called upon to supply an increasing quantity of common money as the period of prosperity develops, and they can only do this in either one of two ways—by the issuance of bank notes, or by depleting their reserves. Since there was little possibility of any large and immediate increase in the circulation of national bank notes, the commercial banks found themselves compelled, in practice, to face a continuous diminution in their reserves in order to meet the increased demands of the community for common money. The ratio of reserves to deposits was therefore attacked from both sides, by an increase in the total amount of deposits, due to the increase in the total loans and discounts made by the bank, and by a decrease in the actual amount of its cash reserve. No matter how high the reserve ratio may have been when the revival in business activity began, the operation of these two forces would in time bring it perilously near to the minimum set by law.

The gradual reduction of the reserve ratio was, therefore, accompanied by a decreased willingness on the part of the bank to lend to its customers, and by a steadily rising rate of interest. This latter naturally augmented the costs of operation of business enterprise, and reduced the profit margin, while the decreased profits of the enterprise, in turn, made the bank less willing to advance any more credit. This factor is among the chief influences which precipitate the crisis. But the crisis itself leads to an increased demand for both common money and bank credit, in order that business may be able to meet the obligations which it is called upon to pay. When everybody is demanding repayment of their loans, a business which is thoroughly solvent, as measured by the relative amounts of its current assets and current liabilities, may be forced into liqui-

dation through a lack of immediate funds with which to meet these demands. The commercial banking system should, therefore, stand ready to advance ample supplies of credit to all sound business enterprises. In this way, the crisis could be squarely met, and surmounted, without much damage to the economic organization.

The Panic of 1907.—The commercial banks of the United States were not, however, in a position to do this. During the period of prosperity, their reserves had been brought down to a point so close to the legal minimum that they were unable to make new loans. Moreover, they were also unable to meet the demands of their depositors for common money, since any payments in cash would have reduced their reserve ratio even more rapidly, than the granting of new loans. Thus, in 1907, we have the anomalous situation in which the cash reserves of the commercial banks of the United States constituted, in the aggregate, a larger proportion of the total deposit liabilities than existed in the case of any other country—yet the New York banks were unable to grant new loans, or to meet the demands of their depositors in cash, until gold had been imported from England!

In such circumstances the crisis degenerated into a *panic*. Business activity came to a standstill, partly through lack of confidence, and partly through lack of funds. Even the most solvent business could not obtain credit accommodation at any price, and the refusal of the banks to meet the demands of their depositors led to a hoarding of cash, which intensified the difficulties of the situation. Any form of common money was at a premium and, in order to meet the most vital needs of the community, various devices were resorted to. The clearing houses,[4] led by New York, issued certificates which were intended for use between the banks, but which rapidly came to be used as circulating currency; banks issued certified checks in

[4] See Chapter 15.

small denominations, and even business enterprises issued promissory notes which served as common money for the duration of the panic.

Such panics soon subsided with a return to sanity on the part of the bankers, and a renewal of confidence between business men, but they exacted a heavy toll in business failures and in the waste which such an interruption of economic activity entails. It may be noted, moreover, that the fall in prices and the general paralysis of business were, in large measure, due, not to any decrease in the total supply of purchasing power, but rather to the very evident desire of many people to hold increased stocks of money. The unspent margin of the community rose rapidly, owing to the fact that everyone was accumulating funds to meet any possible contingency which might arise in the future.

Indeed, during the early part of the ensuing liquidation, the volume of bank credit frequently increased above what it had been before the panic. Business men had to borrow in order to meet their obligations as they fell due and, until business confidence had been fully restored, the need for bank credit would continue large. But, as a result of the decline in the physical volume of business activity, the demands for bank credit fell off rapidly. Simultaneously, the demand for common money diminished as prices fell, so that the reserve ratio of the banks tended to rise steadily until business activity began to awaken out of its lethargy.

Bank Control of the Cycle.—While it is highly improbable that any development of banking policy could entirely eliminate the business cycle, it could undoubtedly make the fluctuations in business activity less extreme. The panics, which occurred periodically in the United States before 1913, could have been entirely eliminated, as is evident from the fact that they did not happen simultaneously in other countries which (with this single exception) experienced almost identical fluc-

tuations in business activity. If a panic should develop, the commercial banks should meet it coolly, granting all legitimate demands for credit at a rate of interest high enough to deter those whose need is not vital; and paying out all the cash that is demanded of them by their customers. That the American banks did not do this must be attributed, in part, to the nature of the legal regulations under which they operated, but it is due, in part, to the nature of the banking system.

Moreover, the influence of the banks is not confined to meeting the demands of a panic period. If the extension of credit during prosperity, and its contraction during the period of depression, were more scientifically carried out, there would be no panic, and the crisis would be very much less severe. Such a policy has been tried with a fair measure of success in other countries, but it was impossible in the United States because of the existence of more than 20,000 banks, each absolutely independent of all the others. In such circumstances, no joint policy could possibly be worked out to limit credit during the period of prosperity. If an individual banker realized the danger ahead, he was unable to persuade his colleagues of the verity of his forebodings, and if he should restrict the loans granted by his own institution, he would only diminish his profits and drive his customers into the hands of his competitors. The force of competition led each bank to do the maximum amount of business and, in so doing, led inevitably to an overexpansion of credit.

Similarly, when the crisis came, there was little or no cooperation among the commercial banks. Each fought for its own existence, holding on to that cash reserve which was actually in its vaults and making use of every opportunity to strengthen its position by calling upon its customers to pay off their loans. At the same time it would try to withdraw any deposits which it might have in other financial institutions. The degeneration of the crisis into a panic was entirely due to

this situation, and, in addition, the contraction of credit during the ensuing period of liquidation was unnecessarily severe.

Instead of mitigating the fluctuations in business activity, the operations of the commercial banks tended to accentuate them. This had been realized from time to time, and the spasmodic efforts made to correct the situation are evident in the following chapters, but little had been accomplished prior to 1913.

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CHAPTER 14

BANK CREDIT AND CAPITAL

The credit policy of the commercial banks obviously exercises an important influence upon the general level of prices and upon the state of business activity—but does that credit policy affect the supply of capital in the country? Can the commercial banks create capital? The classical statement regarding the relation of banking to the supply of capital is that of Gilbart: "The bankers created no new wealth by their lending and deposit holding; they merely directed the existing capital to those enterprises and industries most in need of support, and they quickened the succession of industrial and commercial operations. A given amount of capital was thus made more effective." This contention has been accepted for many years as an accurate statement of the effect of banking upon the supply of capital; the banks apportion the existing supply of liquid capital among the industries and businesses which are in need of it. In view of the supreme importance of bank credit in the modern world, it may, however, be worth our while to look a little more deeply into the problem.

The Nature of Capital.—To the economist, *wealth* consists of a stock of useful goods, but those goods may serve either one of two purposes: they may be used to satisfy immediate wants and so pass out of existence through consumption, or they may be used as equipment to augment the production of wealth in the future. To take a classic example, in a primitive community, whose members lived by spearing those fish that came within striking distance of the shore, the daily catch of fish would represent wealth to the community. Most of

that fish would be consumed immediately, but it might happen that one member of the tribe would dry a portion of his daily catch, and store it up until he had enough food to last him for a month. If, when his immediate wants were thus supplied, he should spend the month in constructing a crude boat which would enable him to fish some distance from the shore, and so render his labor more productive, then that portion of the fish which he had saved would be termed *capital*, as would the boat which it had enabled him to construct. *Capital is nothing more than that portion of the physical wealth of a community which is devoted to the production of more wealth.*

The monetary organization of the society in which we live sometimes tends to conceal this fact. When we talk of the "capital" of an individual or a corporation, we state it in terms of the monetary standard, and often regard it as a stock of money. The capital of a railroad is said to be $100,000,000, but it consists in reality of the trackage and station buildings, the locomotives and cars, which the railroad needs to meet the demands of the community for transportation. Although the nature of the commodities has changed, the capital of a nation is just as much a stock of goods devoted to productive uses as it was in our primitive community. But most of us receive our annual income in the form of money, and the decision as to its use lies between saving or spending. We may spend all of it upon the necessities and luxuries which appeal to us—or, if we are inspired by that virtue of thrift which dominates the works of Mr. Smiles, we may decide to save a portion of it. To the individual, saving (or the accumulation of capital) represents a contrast to spending. Money which is saved is placed in a savings bank, or invested in securities, and we feel sure that it is not spent, because we know that it represents a fund of unused purchasing power upon which the individual saver may draw at any future time.

The difference between thrift and extravagance is not, however, a difference between hoarding and spending money; the

money is spent in both cases, and the only difference is in the things which are purchased. If the saver invests his money in a railroad bond, the railroad will spend it upon new equipment; if the savings are deposited in a bank, the bank, in its turn, will lend them to some business enterprise which desires to increase the total of its productive equipment. Whereas the spendings of the individual provide him with goods that are immediately consumed, his savings are used to purchase equipment and labor, to be used in the production of new wealth.

Sources of Capital.—Any increase in the capital of a community will only be possible when the volume of production exceeds the volume of goods immediately consumed by the members of that community—or, stating the matter in another way, the productive capacity of the community must exceed the total amount of its current consumption. But, once again, a description in terms of the physical wealth of the community bears little obvious relationship to the monetary transactions of our individual experience. Regarding the problem from the monetary angle, as it touches us in our daily lives at the present time, there are five important sources from which the supply of capital may be increased.[1] In the first place, we have *consumer's thrift*, the deliberate abstinence of the individual from present satisfaction of his wants in the hope that he may enjoy his goods in the future. This has been the source most emphasized in the doctrines of the classical economists, and it is still of considerable importance, although the abstinence is not apparent in the case of the savings of a wealthy person. During the last few decades, however, there has been a considerable accumulation of capital through *business savings*. Business enterprises, and particularly corporations, have set aside large amounts out of their annual profits, as is evidenced by the reserves and surplus accounts which frequently appear in corporate balance sheets. In this case, the individual is not called

[1] B. M. Anderson, *Chase Economic Bulletin*, November 8, 1926.

upon to be thrifty, since the savings are set aside before he receives as dividends that portion of the profits to which he is entitled, and the average security holder of a modern corporation has very little influence over the decisions of his board of directors in regard to dividends.

In the third place comes *direct capitalization,* where money does not enter into the transaction at all. The accumulations of our primitive fisherman would constitute direct capitalization and, in the modern world, the best examples are to be found in the agricultural field. A farmer who spends his leisure fencing his farm, or building a barn, is directly adding to the capital of the community by his labors, and a similar result would follow from the abstinence of a rancher who allowed his herds to grow, from year to year, without disposing of the annual increase. Fourthly, we must regard some forms of *taxation* as increasing the supply of capital. When the government collects a part of the national income, and uses the proceeds to construct a school or a park, it is setting aside a portion of its income to augment the supply of capital. Similarly, if it should use the funds to pay off outstanding bonds, it is supplying the bondholders with funds which will in all probability be reinvested in productive equipment.

Finally, we must regard *bank credit* as a source of new capital which is too important to be disregarded. Indeed, so prominent does it appear to Professor Moulton, that he regards the commercial bank as "the most important of the institutions related to the process of capital formation."[2]

Bank Credit and the Supply of Capital.—Bank credit is, however, nothing but a fund of purchasing power and, as we have already observed, the commercial banks create the greater part of that purchasing power. It seems, therefore, somewhat paradoxical to regard credit as an important source of capital. Perhaps a hypothetical illustration will help us. Let us suppose

[2] H. G. Moulton, Commercial Banking and Capital Formation," *Journal of Political Economy,* 1918, Vol. XXVI.

that the economic activity of a given community is stationary, that there is no growth in population and no technological development in progress. In such a community a manufacturer goes to his bank to borrow $100,000, in order to meet expenses connected with the production of woollen cloth. When the bank grants the loan, it will create a credit amounting to $100,000, upon which the business enterprise will draw from time to time in order to purchase raw materials and pay the wages of labor and management. To the industrialist, such a credit is as definitely capital as any similar amount of savings which he might obtain from the investment market. It is clear that the bank has augmented the capital of the community, since by the granting of a loan to the woollen manufacturer it has enabled him to obtain possession of a portion of the wealth of the community, and to devote it to further production. Without the creation of additional bank credit, this would not have been possible.

When the cloth has been manufactured, it will be sold to a wholesale clothier, and with the funds received from the sale, the manufacturer will be able to pay off the bank loan. But, in the light of the preceding discussion, the bank in our static community would see no good reason for reducing the volume of its loans, and of its deposits, by this amount, and it would look around for a customer who wished to borrow. Since it is highly probable that the wholesale clothier will be an applicant for credit, let us imagine that he receives a loan of $100,000. In this case no new credit has been created; the bank will have acted as an intermediary in transferring from the manufacturer to the wholesaler that fund of circulating capital which the former no longer needs. In such a case, there will be no increase in the aggregate amount of bank credit, and the same would hold true in case a retailer should subsequently borrow $100,000 in order to purchase the woollen clothing from the wholesaler.

An increase in the capital of the community only results from the operations of the commercial bank *when the aggregate amount of bank credit is expanded* to meet the needs of producers—and, if we look beneath the fund of purchasing power to the physical wealth of the community, the reason becomes apparent. Since the economic organization of our community is, by definition, static, we have no reason to assume any change in the willingness of the inhabitants to hold stocks of money. Any increase in the total quantity of purchasing power will, therefore, tend to raise the general level of prices, and so to reduce the quantity of physical goods which the inhabitants can purchase with their money incomes. The community is forced to reduce its immediate consumption of goods and, because of that, it is possible for the business enterprise which borrowed the $100,000 to purchase labor and raw materials which are immediately applied to the production of wealth, and thereby augment the capital of the community. It is true that, as the new purchasing power is spent, it will increase the deposit balances of other members of the community, but, owing to the fall in the value of money, the real value of those balances will be no greater than it had been before the increase in credit occurred. An inflation of bank credit, therefore, augments the supply of capital, because it forces the community to save under the pressure of a rising price level, although it may not in any way increase the real volume of "savings" owned by the members of the community.

To take a rather different situation, let us imagine that the members of our community desire voluntarily to increase their savings. When society is organized on the basis of a credit economy, such an aim can only be attained by the use of bank credit. While a number of individuals will purchase investments with their increased savings, and so transfer the purchasing power to an entrepreneur, a large number will, for the time being at any rate, allow their deposit balances at the banks to grow. The result of such a psychological change in our

static community will not in any way change the total quantity of purchasing power, but, in so far as that purchasing power is spent less frequently, there will be an increase in the unspent margin of the community proportional to the growth in the volume of individual bank deposits that are being saved. But when the total quantity of purchasing power remains constant, and the unspent margin increases, there is a fall in the general level of prices. Commodities would become cheaper, and the members of the community would be able to purchase, with their reduced expenditure as large a quantity of physical goods as they had previously purchased, so that no actual saving of real wealth would occur. In such a case, if the banks should increase the quantity of credit by granting loans to business enterprises, and the increased quantity of purchasing power was just enough to prevent any fall in prices, then the desire of the community to increase its savings would be carried into effect. Once again, we are faced with the instrumentality of bank credit in augmenting the supply of capital.

The actual communities of the modern world are, however, seldom static. Population is gradually increasing, and as a result of technological developments, there are increases in the aggregate volume of real wealth. This does not in any way affect the validity of the conclusions which we have reached, but it does create new problems for the banker. Taking, first, a community in which technological conditions are static, but in which the population is steadily increasing, it is apparent that some increase in the total volume of purchasing power will be necessary to meet the needs of the growing population. The number of individuals holding stocks of money, no matter how small the individual stocks may be, is continually increasing, so that the unspent margin of society tends to rise. Should the banks refuse to expand the total volume of credit, a fall in prices would result, and if they expand credit in proportion to the growth of population, it is apparent that they will not cause any rise in the price level which might augment the fund of

capital. Such a result could only follow if the volume of credit were increased more rapidly than the population grew.

The case of a community in which technology is also rapidly improving is, however, somewhat different. In such a situation, the cost of goods is tending to fall steadily, as measured in terms of the labor and equipment necessary to produce them. As a corollary, the total supply of goods in the community will, in most cases, rise steadily, and there would be a strong tendency toward a fall in the general level of prices if the total quantity of purchasing power remained constant. The real income of the community would, therefore, be increased, and each individual would have the opportunity to decide for himself whether he would increase his consumption of goods and raise his standard of living, or increase the capital of the community, by maintaining the same standard of living and saving the increase in his real income. An infinite number of possible choices would lie between these two extremes, but the important point is that any increase in the fund of capital would be the result of voluntary saving on the part of the individual consumers.

Should the volume of bank credit be increased at a rate in excess of the growth of population, this voluntary choice would be restricted. If credit were increased sufficiently to prevent any fall in prices, and the money incomes of the inhabitants were not immediately raised, then all of the increased wealth would be available for capital purposes. In such a case, no increase could occur in the amount of goods devoted to consumption within the community; the business enterprises, armed with bank credit, would merely take possession of the amount of new wealth due to the technological improvements, and devote it to capital purposes. The community would be forced to save, just as effectively as was the static community in which the volume of bank credit was increased. But the banks need not create enough additional credit to maintain prices at their old level: any increase of purchasing power, in

excess of the growth in the unspent margin (due to enlarged population and new voluntary savings) would serve the same purpose in a lesser degree. In a community such as that in which we live, it is apparent, therefore, that the banking system can bring about an increase in capital although commodity prices are actually falling.

Bank Credit and Working Capital.—Up to now, we have spoken of capital as a fund of goods, without any distinction as to the nature of the individual commodities of which it is composed. There are, however, two distinct classes of capital, and our discussion will be simplified if we differentiate between them. On the one hand, we have *fixed capital,* comprising that portion of the productive equipment of the community which is definitely fixed in its form, and which will be used continuously by the producer until it is worn out, or becomes obsolete. Fixed capital includes such things as the tracks of a railroad, the shafts and machinery of a coal mine, the looms of a cotton mill, and the furnishings of an office. The funds out of which such goods are purchased by the producer are known as investment credit, and from our discussion of investment credit instruments we learned that the loans usually run for a considerable period of time, and are ultimately paid off out of the accumulated surplus profits which result from the use of the equipment.

On the other hand, we have a large fund of capital goods which will ultimately be sold to the consumer, either in their existing condition, or after having been subjected to processes which increase their economic utility. For example, we have the coal which has been purchased by the railroad, but not yet consumed in the provision of transportation; the linen cloth which will be made up into shirts; the shirts which have been manufactured, but are still on the dealer's shelves; and a large number of other articles in the form of raw materials, partly manufactured goods, or finished products. From the view-

point of the community, this fund of goods is known as *circulating capital,* because of the fact that it is constantly being consumed and as steadily replaced; while to the individual business enterprise, its monetary equivalent appears as *working capital.* The loans which are made for working capital will come under our earlier heading of commercial credit and, in general, they will run for only a short while before being repaid out of the proceeds resulting from the sale of the goods in connection with which they were made.

Now it has long been recognized that the commercial banks furnish credit for purposes connected with working capital. Even those writers who maintain that bank credit can never increase the supply of capital would suggest that the aggregate amount of bank deposits represents a fund of liquid capital, and that the banks act as an intermediary between those who have a temporary excess of working capital and those who wish to make up a temporary deficiency. That such an explanation is inadequate is readily apparent from the earlier discussion, but, whatever be the explanation, there is a general agreement that the commercial banks do supply working capital to industry and business. In fact, the legal regulations governing commercial banking in the United States are based entirely upon the assumption that it is the business of a bank to make loans for this purpose, and for no other.

Since 1913, two classes of bank deposits have been recognized, *demand deposits* and *time deposits.* While the former, which have always constituted by far the larger amount, are repayable in cash upon the demand of the depositor, the time deposits may only be withdrawn from the bank after thirty days' notice has been given. Some of the questions arising in connection with time deposits will be discussed in a later chapter, in connection with savings banks, but for our present purpose there is little difference between them since both are in practice payable on demand.

All of the liabilities of a bank are, therefore, payable at a moment's notice and, even if advantage were taken of the thirty days' notice which may legally be required in the case of time deposits, the bulk of the liabilities would still be payable on demand. In normal times, the demands upon the bank for common money are offset by the deposits of common money which it receives. Any slight discrepancy in these amounts from day to day is taken care of by depleting the reserve. At certain periods, however, as at a time of crisis, or in an emergency caused by some natural calamity, the confidence of the general public in the banking system may be temporarily weakened. In this case, the bank is faced with abnormally large demands for common money, and its assets should be in such a condition that these demands may readily be met. Short-term commercial credit operations have, in the past, been held to meet this need most satisfactorily. If the bank purchases the note of a farmer, who uses the proceeds to market his crop, the loan will automatically be repaid at the end of a short period. Similarly, if the bank discounts an acceptance arising out of an import of wool from Australia, it will be reimbursed when the wool arrives in this country, and is sold by the importer. Commercial credit instruments arising out of transactions such as these are known as *self-liquidating paper,* and they have been prescribed as eminently suitable for purchase by commercial banks, on the assumption that they are soon paid and thus provide the bank with common money to meet any drain to which it may be subjected.

In actual practice, the problem is not so simple. The credit which a bank extends in this manner is immediately invested in capital goods, or spent in the payment of wages. Any sudden contraction in the total volume of that credit would involve a decrease in the available quantity of purchasing power, and so precipitate, not only a fall in prices, but a wholesale liquidation of business operations. The dealer who purchases the farmer's crop will probably have to borrow from his

bank in order to pay the farmer, and if his bank refuses to grant him a loan, the farmer's note cannot be met at maturity. Similarly, the wool manufacturer will probably have to borrow from his bank to purchase the raw material from the importer, and his inability to obtain credit would deprive the importer of the funds with which to meet the acceptance. So long as a single bank wishes to contract the volume of its loans, it can do so as the "self-liquidating paper" is paid off, but when all of the banks restrict credit at the same time that paper loses all of its liquidity, and becomes as much a permanent investment as is a mortgage bond.

In practice, therefore, a bank can obtain common money, to meet the demands upon it, only by *shifting* some of its assets to another bank. This can be done by borrowing from another bank on collateral, by rediscounting some of the commercial credit instruments which it holds, or by selling its investments upon the market. The most useful assets in time of need are not those which should, in theory, be self-liquidating, but those which are most "shiftable," and the immediate ability to dispose of assets for cash, without considerable loss, is governed by the degree of organization of the market in which they must be sold. In the United States, the most highly organized market was, for a long while, the Stock Exchange, and although the facilities for the immediate shifting of commercial paper have been greatly increased of recent years, there is no such wide difference between the two groups of assets in this respect as there was in the light of the old theory of self-liquidation.

Fixed Capital Supplied by Commercial Banks.—It is natural, therefore, to expect that commercial banks should also extend credit for fixed capital purposes, and such is indeed the case. From the combined statement of all the national banks, on page 192, it is apparent that investments in securities of the United States Government, and of other public bodies and cor-

porations, amounted to somewhat more than 7 billions of dollars, or approximately one-quarter of the total resources of those banks. In the same year, the investments held by state banks comprised more than 3½ billion dollars, out of total resources of slightly more than 16 billions; while in the case of trust companies the proportion was somewhat higher. Approximately one-quarter of all the credit extended by the commercial banks of the country was represented by investment securities. Naturally, the importance of investments will vary from one part of the country to another, and from one institution to another, but the situation in Chicago, which is shown in Table XII, is indicative of conditions throughout the United

TABLE XII. RATIOS OF AGGREGATE INVESTMENTS TO TOTAL EARNING ASSETS, IN THE CASE OF BANKS IN CHICAGO[3]

(Grouped according to outstanding capital stock)

	Under $200,000	$200,000 to $399,999	$400,000 to $599,999	$600,000 to $799,999	$800,000 to $999,999	$1,000,000 and over
	%	%	%	%	%	%
National Banks:						
Aug. 9, 1913..	25.2	27.7		6.3		12.1
Oct. 3, 1928...	45.6	48.3	20.1		47.9	17.8
State Banks:						
Oct. 22, 1913..	33.3	16.4	12.1			26.0
June 30, 1928.	37.4	32.1	26.6	30.5	38.4	27.3

States. The figures also indicate the increase in the proportional amount of investments which has taken place during the last two decades.

But the credit embodied in investment securities does not, by any means, measure the extent to which the commercial banks supply fixed capital to the business organization. Substantial loans are made by these banks to brokers and speculators in securities, as well as to the investment bankers them-

[3] From *An Analysis of Earning Assets of Chicago Banks*, published by the Bureau of Business Research of the University of Illinois.

selves.[4] In all of these cases, investment securities are deposited with the bank as collateral, and the funds provided by the bank are used by the borrowers, either to purchase securities, or to carry them until they can be sold on the market. In the case of the broker and the investment banker, such loans may be regarded as working capital, in that they enable the borrower to purchase assets which he expects to resell in the near future. If, however, his expectations are disappointed, and he is unable to sell the securities, the bank credit will for the time being constitute a fund of purchasing power which the issuing corporation will use to acquire the fixed assets that it needs. In the case of loans to the purchasers of securities the situation is different. Here the bank is supplying funds which, through the purchase of investments, will be directly used to increase the fixed capital of the community. The credit will, in the course of time, be extinguished by the savings of the borrower, so that in this case the bank is enabling the community to increase its stock of fixed capital in the present, against the prospect of monetary savings in the future. But future savings cannot be translated into present capital goods by any magician's wand: the bank is, for the time being, forcing the community to diminish its consumption in the manner already described.

Thirdly, the commercial banks have, since the war, made large loans against the security of real estate and, while some of this credit has undoubtedly been used for working capital purposes, the greater portion of it has been used to augment the supply of fixed capital.

Finally, the loans made by the banks on unsecured single-name promissory notes sometimes give rise to fixed capital expenditure. Such loans are not directly connected with any individual commercial, or industrial, transaction. They are made, as we saw in an earlier chapter, on the basis of the financial statement presented by the business enterprise, and the

[4] See Chapter 24.

credit is granted to augment the liquid capital of the borrower. Unsecured loans often continue for several years, and even in those cases where they are periodically repaid, the business enterprise still tends to be in debt to its bank during the greater part of the year. While the larger portion of the credit so extended by the banks is, in fact, used for the acquisition of goods that will later be resold, there is no doubt that a part of it is expended in the acquisition of fixed assets. This would happen where a manufacturer used the proceeds of a loan to purchase machinery, or a farmer, to build a barn. It has been estimated that 20% of all loans on unsecured single-name paper are used for fixed capital purposes, and, if anything, this figure appears somewhat too conservative.

It is apparent that the commercial banks today supply a good deal of credit for fixed capital purposes. Professor Moulton suggested, as long ago as 1918, that more than half of the credit extended by the commercial banks of the United States was for investment purposes,[5] and there are many indications that the proportion has increased since that time. From the viewpoint of the bank, there is little difference between investment credit and commercial credit. If it lends $10,000, it will receive either a commercial credit instrument or an investment security—and, in either case, it will have to sell the instrument if it finds itself in need of common money.

Conclusions.—The conclusions of our theoretical analysis are confirmed by our observation of banking practice. The commercial banks do influence the supply of capital by their credit policy, and they directly make loans for both working capital and fixed capital purposes.

Despite this fact, the difference between bank credit and capital remains as fundamental as it was in the beginning, although it is obvious that there is a close relationship between them. The accumulation of capital can proceed more rapidly

[5] H. G. Moulton, *Journal of Political Economy*, 1918, Vol. XXVI.

than the voluntary savings of the community, if the banks extend additional sums of new credit to the producers, and voluntary savings may exceed the increase in capital if bank credit should fail to prevent the fall in the price level, which follows from an increase in the unspent margin of society. From the pecuniary angle, which regards capital as a fund of purchasing power to be invested in productive equipment and circulating capital, the loans which a commercial bank makes are just as much "capital" as the contribution of the shareholder or bondholder. Both items will appear as liabilities in the corporate balance sheet, and the proceeds of both will be spent in purchasing goods and services to be devoted to the production of more wealth.

Suggestions for Further Reading

Hawtrey, R. G. Currency and Credit. Longmans, Green & Co., 1928, Ch. XIII.

Moulton, H. G. "Commercial Banking and Capital Formation." *Journal of Political Economy,* 1918, Vol. XXVI.

Robertson, D. H. Money. Harcourt, Brace & Co., 1922, Ch. V.

CHAPTER 15

INTER-BANK RELATIONS

During the preceding discussion, we have often used the terms "commercial banks" and "commercial banking system" as if they were interchangeable. Occasionally we have been compelled to notice the fact that there were many separate banks, but we have simplified the picture by ignoring that fact whenever it was possible to do so. We must now turn our attention to the system of relationships which exists between the various financial institutions.

Commercial Banking in the United States.—In actual fact, there are in the United States somewhat more than 24,000 individual commercial banking institutions, to say nothing of thousands of other specialized units that play a considerable part in the financial system. To be precise, we learn from the report of the Comptroller of the Currency that there were in operation in the United States during 1928, 7,676 national banks, 15,078 state banks, and 1,633 trust companies—giving a grand total of 24,387 individual commercial banks. Of recent years, there has occurred a good deal of integration. Groups of banks have been brought together under a coordinated control, banks of different kinds have been amalgamated, or linked through an interchange of securities, while in some states there has been a rapid development in the field of branch banking. By and large, however, there are in this country more than 20,000 separate banking units, each of which was, before 1913, legally independent of all the others. If the ideal of independence, which characterized banking legislation, should have been carried over into the field of banking practice, the

economic activities of the country would have been thrown into chaos. Each geographical area would have had to solve its own financial problems, each city would have been as financially indepenent of every other city as are two sovereign states in the modern world—and, even within a given city, there could have been no financial harmony because each bank would have been working entirely for itself, without regard to the effect of its actions upon its neighbors.

Such a situation was incredible, and, although all of the suggested evils were not completely eradicated until after the passage of the Federal Reserve Act, the commercial banks found it to their own interest, and to that of the communities which they served, that they should develop certain cooperative institutions and practices. In these interrelationships between the various banks we can find the germ of a real banking system, for a system is more than a large number of individual banking units. It implies that those units are in some way knit together, so that all can act in unison to achieve a given aim, or to meet a particular crisis. That this requirement was not fully met, until the last two decades, will be apparent as we proceed, but distinct attempts were made by far-sighted bankers to attain it. These attempts may be divided into three broad groups, viz.:

1. Attempts to link up banks within a given area, such as a city;
2. Attempts to establish working relationships between banks in different areas; and,
3. Attempts to broaden the work of the commercial banking system so that it might more adequately serve the needs of business.

The linking up of the various banks within a given area was achieved through the clearing house; banks in different parts of the country established working relations with one another through a correspondent agreement, both of which aims could be achieved by the commercial banks themselves, without in

any way violating the law which regulated their activities. These banks could not, however, meet all of the needs of business, either from a geographic standpoint, or in regard to the nature of the service required, because of the legal restrictions placed upon them. It, therefore, became necessary to create separate institutions, complementary to, and dependent on the commercial bank, to round out the commercial banking system. These institutions will receive attention in the two following chapters.

The Clearing System.—The ability of a commercial bank to create purchasing power rests upon two assumptions, that checks constitute by far the most important medium of exchange in current use, and that those checks are seldom presented for payment in cash. In the case of an individual bank, which handled all of the financial business of an isolated community, it was clear that these assumptions were satisfied. When Jones drew a check to the order of Brown, and Brown deposited it with the bank, the whole transaction was settled by two bookkeeping entries—a debit to the account of Jones and an equivalent credit to the account of Brown. But where there are two or more banks in the community, and Brown keeps his account at a different bank from that of Jones, the transaction is not so easily settled. Brown's bank can demand a cash payment from Jones's bank, in settlement of the check, thereby invalidating our second assumption.

It is probable, however, that customers of Brown's bank have drawn checks on their accounts, which have been deposited in Jones's bank, so that each of the two banks will have to pay cash on one package of checks, and to receive payment on another package. Each could employ a messenger to go to the other banks, and collect the amounts due, while the messengers of the other banks would come to it to collect payment on the checks which they held. Such a system existed in the United States, and in other countries, for many years, and the

inconvenience and expense which it involved obviously increased rapidly as the number of individual banks multiplied. In a city with 50 or 100 different banks, it would prove almost impossible—to say nothing of the serious danger of robbery which would arise if messengers should be wandering around the streets with thousands, or even millions, of dollars of common money in their pockets or satchels.

Clearly a great economy in time and money would accrue to all of the banks if the messengers could meet together, at a specified place, and exchange the various bundles of checks which they carried. A good deal of journeying from one bank to another would thus be avoided, and it is highly probable that the messengers themselves realized the advantage of such a scheme, and adopted it, long before there was any official action by the banks which they represented. Certainly the London Clearing House began its distinguished career in such an unofficial gathering, around the tables of a coffee house, and in that gathering was the true germ of the modern clearing system—for *a clearing house is nothing but a place at which the representatives of several banks meet regularly to settle debit and credit balances by a process of offsetting one against another.* If the Alpha Bank held $10,000 of checks drawn upon the Beta Bank, while the latter held $10,000 of checks drawn upon the Alpha Bank, then the whole transaction could be settled easily without any cash payments, if representatives of the two banks should meet and exchange the items. The principle is the same whether there are 2 banks or 200 banks in the clearing system; it is only the practical operations which become a little more complicated.

In actual practice, however, it will very rarely happen that the amount which a given bank has to collect from other banks will be exactly equal to the amount which they have to collect from it. On any given day, each bank will usually find that it must pay more than it receives, or vice versa. Thus, in the case represented by the accompanying table, the Alpha Bank

Bank	Total Checks of Each Bank Against the Others (Cr.)	Checks of the Others Against It (Dr.)	Credit Balance	Debit Balance
Alpha.....	$50,000	$51,000		$1,000
Beta.....	25,000	27,000		2,000
Gamma.....	40,000	32,000	$8,000	
Delta.....	45,000	50,000		5,000
Totals.....	$160,000	$160,000	$8,000	$8,000

will on balance have to pay $1,000 to the other three, while the Gamma Bank will receive $8,000 from the others. But, whereas the total amount of the checks entering into the clearing was $160,000, the total payments of cash needed to settle the accounts was only $8,000. In the actual operations of a large clearing association, the net payments are even smaller in proportion to the amount of the clearing, than is the case in the above hypothetical example, so that, even if those net payments were made in cash, the second assumption with which we started would have been very nearly fulfilled. Only a very small proportion of the checks drawn would have to be paid in common money.

But clearing balances between banks need not be settled by means of cash. In some cases, the amounts due from other banks are left on deposit with those banks, and treated as loans, which may or may not bear interest. Since it is to be expected that, over a period of time, the aggregate amount of checks drawn on a bank, and held by other banks, will be equal to the amount of checks which it has to collect from those other banks, there is a distinct convenience in leaving the balance of any given day as a loan. Should this method not prove satisfactory, or should the banks prefer a daily settlement, the net balances due on any single day might be paid by check. If all of the banks in a given district were required to keep accounts with a designated bank, let us call it the Omega Bank,

then all settlements could be made by drawing checks on those accounts. To return again to our previous illustration, the day's clearing would be settled by entries on the books of the Omega Bank, crediting the Gamma Bank with $8,000, and debiting the other three with the appropriate amounts shown in the table. In such a case, no cash is needed at all; the whole process is carried through by means of bookkeeping entries, and in practice this is the system which prevails, at the present time, in most of the financial centers of the United States. Banks which are members of the clearing house in a given city are each required to keep an account with the Federal Reserve bank, and balances are settled through those accounts.

Other Functions of Clearing Houses.—Although the clearing associations throughout the United States existed primarily for the purpose that has already been discussed, it was soon realized that there were many matters, of almost equal importance, which could only be handled by some cooperative organization in which all (or at least a majority) of the banks of a given city participated. The clearing houses were, in practice, the only organization of that kind in existence, and, therefore, around the nucleus provided for the clearing of checks, there was developed an organization capable of doing other things which were found to be necessary.

In the first place, the clearing house was sometimes able to come to the assistance of a bank which was temporarily in difficulties. Any demonstrated weakness in the banking system, such as the inability of a particular bank to meet the demands of its depositors for cash, would so tend to weaken public confidence that all of the other banks would be faced with the possibility of a "run." Now, as we already know, a commercial bank, in normal times, keeps only a small amount of cash on hand, so that any general demand for cash, on the part of depositors, would force the banks to suspend payment, and precipitate a crisis of considerable significance not only

in the immediate locality, but to all those areas with which it was economically connected. It would, therefore, be highly desirable that any lack of public confidence in a single bank should be met by an adequate supply of cash to pay out all depositors who presented themselves. All of the banks in the community would thus be saved from a very unpleasant experience. But cooperative action on the part of several banks was necessary to accomplish such a result, since it would be hardly likely that a single bank would be sufficiently powerful, or sufficiently disinterested, to come to the assistance of its distressed brother. In practice, therefore, when the bank in temporary difficulties was examined, and found to be fundamentally solvent, the members of the clearing association would, as a body, come to its assistance, and supply the amounts of cash which were urgently needed to restore public confidence, not only in the individual bank but in the whole commercial banking system.

From this position, it was logical to proceed to one which would prevent such a danger from arising, as far as prevention was humanly possible. This could be done in one of two ways, first, by eliminating internecine competition among the banks, and secondly, by conducting regular examinations of those banks to determine whether or not their operations were within the accepted definition of sound banking practice. In regard to competition between the banks, the greatest weaknesses proved to be the payment of interest on deposit balances, and the cutting of exchange charges and collection fees. In order to attract customers, a bank might offer to pay an unusually high rate of interest on the credit balance of the customer's deposit account, or to collect out-of-town checks for him free of charge, or at a charge below the cost to the bank. To meet the expenses of such interest and collections, the bank was often led to make unsound loans because of the fact that additional risks were compensated by a rate of interest somewhat above the average. Not unnaturally, such a practice often

led the bank into difficulties. To prevent such a situation from arising, a large number of the clearing house associations throughout the country adopted uniform exchange and collection charges, and prohibited their members from paying interest on deposits in excess of an agreed rate. Such a policy was very wholesome from the viewpoint of the banking system, since it was aimed at the elimination of one important source of financial instability, but it must be confessed that the ideal was not always realized, owing to the fact that the association was a voluntary body, from which any bank could withdraw if it expected to increase its profits by so doing.

The examination of the condition of member banks was not carried out until comparatively late, Chicago being the first to adopt such a policy in 1906. It might be imagined that the examinations by the state or federal governments, which each commercial bank regularly underwent, would have proved adequate; but these examinations merely ascertained whether or not the individual bank was operating within the letter of the law. It became apparent to the banking community that those things which were lawful might not be expedient. Sound banking practice imposed criteria which were a better test of a bank's operations than those set up by the legal code, and, if each bank were to be regularly examined, and compared with the ideals of banking practice which prevailed in the community, it was thought that greater uniformity would be produced and that the banks would be more closely coordinated. The examination is therefore a rigorous one, extending into every phase of the bank's activities, and, as the report is filed in the clearing house, the bank has to meet with the approval of its colleagues in every respect. Such a system has proved of tremendous value in eliminating the weak spots in the banking system, and has been adopted enthusiastically by a large number of clearing associations in many cities.

Finally, in times of financial crisis, the clearing house was called upon to take steps to protect the whole banking system.

By pooling reserves it was able to strengthen the weakest banks, which, if they had failed, would have destroyed public confidence. But this was not enough. The business world at such a time was demanding additional quantities of bank credit and common money, and the clearing house was called upon to assist the member banks in meeting both of these needs. To be sure, the pooling of cash reserves made it equally possible for all of the individual banks to increase somewhat the volume of their loans and discounts, and, lest a bank which extended credit more rapidly than the others should lose a portion of its reserve in the process of clearing, balances were settled not in cash but in *clearing house loan certificates.* These certificates were issued by the clearing house to the individual banks, against the deposit of acceptable collateral, consisting of either commercial paper or bonds. The whole process of clearing was therefore carried on without in any way affecting the cash in the vaults of the clearing banks, so that these were relieved of any fear of a diminution of their reserve resulting from clearing operations. Indeed, the certificates proved to have a use entirely apart from the clearing house itself, for, in the actute shortage of common money which prevailed during some of the crises (as in 1907), clearing house loan certificates were actually circulated in some of the larger cities, thus acting for the time being as common money.

Correspondent Relationships.—Important as the clearing houses were, however, they were confined to comparatively small areas, such as cities. But the operations of a bank cover a much wider area, since the business of its customers, may be nation-wide. Banks are, by the very nature of their operations, the most important agency for the settlement of financial transactions between individuals who are geographically separated from one another. If an individual in Philadelphia purchases a consignment of books from a company in Chicago, there are, generally speaking, three ways in which he can

settle the transaction. In the first place, he can send actual cash, but this is as unusual in the domestic field as it is in the international field; secondly, the Philadelphian might send his personal check, drawn on a Philadelphia bank; while, if this should not be satisfactory to the Chicago company, he might purchase, from the Philadelphia bank, a check drawn upon some bank in Chicago.

In either of the latter cases, it is apparent that some transfer of funds must take place. If the Chicago firm receives a check on a Philadelphia bank, it will naturally deposit it in a Chicago bank, which will, in general practice, credit the account of the company with the amount of the check. The Chicago bank, to reimburse itself, must then collect the proceeds of the check from the Philadelphia bank. Alternatively, if the Philadelphia bank is to sell its customer a draft on Chicago, it must previously have established an account in the latter city, upon which it can draw. Hundreds of transactions similar to the one mentioned are taking place every day. Banks in any given city are receiving checks drawn upon banks in many distant cities, and at the same time are being asked to supply their customers with drafts to be used in payment of obligations at distant points. The collection of out-of-town items, and the creation of domestic exchange, have been greatly simplified by the operations of the Federal Reserve system,[1] but before 1913 these were important problems in banking policy.

The solution to the difficulty was found in the establishment of correspondent relationships. If, in the case we suggested, the Philadelphia bank was a correspondent of the Chicago bank, the transaction would have presented no difficulty. The Philadelphia bank could have drawn a check upon its Chicago correspondent, or, alternatively, the Chicago bank could have forwarded the check received from its customer to the Philadelphia bank, and requested the latter to place the

[1] See Chapter 19.

proceeds to the credit of its account. Any checks, bills of exchange, or other credit instruments in the hands of the Philadelphia bank, would, if they were payable in or near Chicago, be forwarded to the Chicago correspondent bank for collection —while the Chicago bank would call upon its Philadelphia correspondent for the same service. The banks of the whole country were, therefore, linked together by a network of correspondent relations, which centered very largely upon Chicago and New York, but especially on the latter city. While a bank in Carencro, Louisiana, might not have a correspondent in Philadelphia, it would probably have one in New York, and, since the Philadelphia bank would also have a New York correspondent, a debt from Carencro to Philadelphia would customarily be settled by a check drawn on New York. Drafts on New York thus tended to become the basis of the domestic exchange system.

Prior to 1913, the banking regulations, governing both state and national institutions, permitted the banks in other parts of the country to deposit a portion of their cash reserves with commercial banks in the larger financial centers. Country banks might deposit three-fifths of the required reserve with banks in reserve, or central reserve, cities; while banks in reserve cities might deposit one-half of their reserves with banks in central reserve cities. Such a provision was naturally made use of, because, while cash in the vault of a bank is the most unprofitable of its investments, deposits with banks in the financial centers earned interest for their owner. It was, therefore, a customary thing for banks in the financial centers to hold the excess funds of their correspondents throughout the country. By this means, the banking system of the United States was enabled to attain a measurable concentration of funds in several cities, and this was particularly true in the case of New York. On account of its geographic position as the European gateway to this country, New York had long

ago attained to preeminence, not only in foreign trade itself, but also in the financing of foreign trade. Strong financial institutions grew up, to attend to the needs of the importers and exporters and of all those who were concerned in the collection and distribution of such commodities throughout the United States. Moreover, the dealings in connection with the foreign capital invested in this country were largely centered in New York, and it was natural that all of these reasons should combine to enhance its financial prestige. It was, further, one of the few central reserve cities, so that a large volume of banker's balances was continually held there, making New York the most important money market throughout the length and breadth of the United States.

The mutual services of correspondent banks were not, however, confined to the collection of credit instruments, and the holding of surplus funds. Indeed, as a reciprocal of this latter function, it was customary for banks to borrow from their correspondents in time of need. If a bank in Akron, Ohio, found itself in need of funds, it would seek to obtain accommodation from its correspondent in New York, and in normal times such a request would be granted. The methods by which such a loan was arranged were numerous. The Akron bank might rediscount commercial paper; it might sell bonds or other securities which it held; or it might borrow on its own note and deposit such commercial paper, or securities, as collateral. If none of these methods proved satisfactory, the directors or officers of the Akron bank might borrow on their own personal note, or they might indorse the note of the bank —although these latter devices were only used in case the borrowing bank was in a particularly weak condition. The important point is not so much the method by which the loans were negotiated, as the fact that the banks in the larger financial centers recognized, to some extent, the obligation which rested upon them to supply credit to their weaker cor-

respondents, a portion of whose reserves they generally held. That sense of obligation was not, however, very strong, and could not be, because the banks in the financial centers were, equally with their correspondents, commercial banks that were operated directly for the purpose of making a pecuniary profit —a purpose with which the needs of the country banks were occasionally in conflict.

Finally, the correspondent banks served one another as sources of information. The larger banks in the financial centers would send to their country correspondents periodic reports on the general financial situation, would answer specific queries, and give advice regarding banking policy, and warnings as to probable developments. In return, the smaller bank would furnish any information needed by its correspondent in regard to local conditions, or to a local business enterprise.

Inter-Bank Relations.—It is apparent that, through clearing house associations and correspondent relationships, the commercial banks of the country were in a measure linked together. The ideals which inspired the most far-sighted of American bankers were undoubtedly high, and, had such men been much more numerous than they were, the banking system might have been more harmonious in its structure and more effective in its policy. While a good deal was actually accomplished, the results were far from perfect. The clearing houses worked very satisfactorily in normal times, and, under the spur of self-preservation, they achieved a great deal during the actual time of crisis—but they were not powerful enough to carry out any continuous financial policy. The system of correspondent banks was an even looser organization, and the banks in the larger financial centers were neither willing, nor able, to work out a coordinated banking policy which included all of their out-of-town correspondents. The institutions which are discussed in the two following chapters did, to a certain extent, supplement the work of the commercial banks them-

selves, and buttress the whole structure. Indeed, without them, the commercial banks could never have succeeded as well as they did in meeting the needs of business.

Suggestions for Further Reading

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CHAPTER 16

COMMERCIAL PAPER HOUSES

The failure of the banks to organize themselves into an effective banking system, through clearing house and correspondent relationships, necessitated the creation of the commercial paper house. This institution operates as a mediator between borrower and lender, and its importance can be traced, in large measure, to the regulatory system which circumscribed the operations of the commercial banks. Although a distinct body of opinion has recently developed in favor of group, or branch, banking, the American system is traditionally one of unit banks. It would often happen, therefore, that the demands for credit of the farmers in Iowa were greatly in excess of the lending capacity of the local banks, at a time when the bankers of Pennsylvania were in a position to extend credit to an amount greatly in excess of the requirements of the local business enterprises. Such a situation would arise, for example, at the time of harvest, and, although the Iowa banker might conceivably borrow from his Pennsylvania correspondent, if he had one, it is scarcely probable that he would be able to meet all the demands of his customers by this method. Such an arrangement would also tend to make credit expensive to the Iowa farmers, since a high rate of interest would be necessary to cover the cost of the loans received from its correspondent, and still leave a margin of profit adequate to induce the Iowa banker to obtain the funds.

The Need for an Intermediary Institution.—Clearly it would be to the advantage both of the borrower in Iowa, and the banker in Pennsylvania, if some intermediary institution

should be able to purchase the promissory notes of the former and sell them to the latter. The commercial paper house—and the note broker out of whose operations it developed—performed precisely this function, and was, therefore, received with favor by both parties. Had the banks of the United States been legally empowered to operate a large number of branches, in a fashion similar to their Canadian or European cousins, the importance of the commercial paper house would have been radically diminished. In such a case, funds could have been moved from one part of the country to another, by the use of the branch facilities, as occurs at the present time in Canada, and, if we may judge from the experience of other countries, the commercial paper house would never have come into existence at all. It is, therefore, an institution peculiar to the United States, and, in its present form, it depends for its very existence upon the decentralization of banking in this country.

The development of these houses has, however, been greatly fostered by another type of restriction which is common to all the banking codes of this country. To take the National Banking System as an example, a bank may not lend to any one customer, on his unsecured promissory note, an amount in excess of 10% of its own capital and surplus. While the aim of such a limitation upon loans is a very good one, attempting, as it does, to prevent the banker from jeopardizing his business by placing all of his eggs in one basket, it is clear that it would also operate, in many cases, to prevent the banker from meeting all of the legitimate credit needs of his customer. When we remember that there are many banks in the United States with a capital of no more than $15,000, and a comparatively small surplus, while large numbers of business enterprises use credit to the extent of hundreds of thousands of dollars, we realize that a business enterprise will frequently find it necessary to keep accounts with several banks, in order to obtain the aggregate volume of credit required to carry

on its operations. But, if a large business enterprise has settled in a comparatively small community, or if any enterprise in such a community is in need of an unusually large amount of credit, it may be that the combined resources of all of the local banks are insufficient to enable them to make the loan.

Business enterprises in such circumstances would be compelled to seek accommodation in distant markets, and, if they attempted to do so themselves, a good deal of expense would be incurred and much difficulty encountered, owing to the fact that banks in other parts of the country would be absolutely unfamiliar with the financial standing of the borrower. For any but the largest of business enterprises, the whole attempt would be an impossible one, for both of these reasons, and the services of an intermediary institution are obviously necessary. The commercial paper house performs precisely this function, and serves as a channel by which funds can be brought to the prospective borrower from distant communities.

Operations of a Commercial Paper House.—To perform this function adequately, the commercial paper house must have an organization covering a wide geographical area. At the present time there are between 20 and 30 such houses in the United States which operate on a nation-wide basis, and a large number of others which confine their activities within a smaller area. The organization of the larger houses usually takes the form of a head office in one of the more important eastern financial centers—chiefly New York and Boston—and a series of branches, or agencies, located at strategic points throughout the country. All of the offices are competent to meet the needs of either borrowers, or lenders, and in practice several of them perform each of these operations at different periods of the year.

While we have classified the commercial paper house as an institution whose operations come under the heading of

mediation, it must be emphasized that it is more than a mere broker who brings buyer and seller together without risking any of his own funds in the transaction. The commercial paper house actually advances funds to the borrower at the time at which it purchases the commercial paper, thereby acting as a source of credit, and assuming the risks attaching to the resale of the instruments which it has bought. In normal times, it will hasten to resell this commercial paper as soon as possible, in order to render its funds available for another similar transaction, for the commercial paper house does not make its profits out of the interest which it receives on the paper. The chief source of revenue is the commission received from the borrower for initiating the operation, and, since this commission usually amounts to only one-quarter of 1% of the face value of the paper, it is apparent that a large volume of business is necessary to enable the house to make a sufficiently large profit during the year. The aggregate profits are directly proportional to the volume of business—or stating the same thing in another way—to the rate of turnover, so that the primary aim is to resell the paper as soon as possible after it has been purchased.

Although a small amount of commercial paper is purchased by business enterprises with a temporary surplus of funds, and by insurance companies, the most important purchasers are the banks which happen to have loanable funds in excess of the legitimate demands of their customers. The buyers receive the paper from the commercial paper house under an option agreement, whereby they can return it to the house within a period ranging from five to ten days, if they should discover on investigation that the credit standing of the borrower does not come up to the standards which they set. The worth of the paper is determined entirely by the credit standing of the issuing business enterprise, for, although the commercial paper house makes a very careful investigation of those enterprises from which it buys, it does not indorse

the paper which it sells, nor does it give any kind of guarantee regarding it. Naturally, such an institution will not handle the commercial paper of businesses which are known to be financially unsound, since such paper would directly reflect upon its own standing, and injure its business reputation—but the final judgment of the borrower's credit rests with the purchaser in all cases.

During the interval between the advancing of funds to the borrowing corporation and the sale of the commercial paper, the commercial paper house has funds tied up in the transaction. In some cases, moreover, a given line of paper may prove unsalable, owing to a general lack of confidence in the borrower; while, at times of general credit stringency, it may be almost impossible to dispose of any paper at all. To meet the expense involved in holding such paper out of the capital of the house itself would seriously restrict the scale of its operations, for in most cases the capital of the commercial paper houses is comparatively small. The additional funds, which are temporarily needed to meet all of these situations, will be borrowed from the commercial banks on the promissory note of the house, which is usually secured by depositing the purchased paper as collateral. Even in normal times, the commercial paper house will be using funds greatly in excess of its own capital, for through its ability to acquire credit from the commercial banks, a house may pyramid its resources many times, and thus receive commissions on a tremendous volume of business. Of its own accord the house cannot create credit, so that, in the last resort, the greater part of its operations are dependent upon the continuing cooperation of the commercial banks.

Regarding the paper dealt in, this has traditionally consisted exclusively of promissory notes, although in the last few years the campaign carried on to popularize the use of acceptances has led some of the older houses to deal in these instruments, and has caused new dealers to come into existence

who specialize in this field. Even today, however, unsecured single-name paper is most frequently encountered in the open market. Some double-name paper is dealt in, both trade paper which arises out of a commercial transaction, and paper which bears two names because an indorsement has been added to give the paper a higher credit standing than it would have gained from the signature of the maker. Some collateral notes are also used, but these are very rare and are confined almost entirely to New England.

The notes are usually drawn for amounts of $5,000, although smaller denominations are sometimes issued to meet the needs of the country banks, while, in the case of an issue sold primarily in the financial centers, the paper may be drawn in sums ranging from $10,000 to $25,000. This does not mean that the borrower's loan is limited to that amount. The aggregate amount of the loan may be several tens, or even hundreds, of thousands of dollars—but, since it would be difficult, if not impossible, to sell such a large note to any one lender, the total amount of the loan is split up into an appropriate number of smaller credit instruments. In this respect, the issue of commercial paper purchased by a commercial paper house is very similar to a bond issue, although, in the case of commercial paper, each of the instruments constitutes an independent contract, which can be enforced without reference to any of the other notes outstanding.

The duration of the paper is generally between three and six months, but here again there is some variation. Many business enterprises are borrowing continuously, and since a commission must be paid to the commercial paper house every time a new issue of notes is sold, it will be to the advantage of the borrower, in normal times, to have the notes run as long as possible. When the rates of interest are falling, however, it may be that the borrower can save more in interest by issuing short-term notes, than he loses in the payment of commissions. The interests of the bank which ultimately

buys the paper, are naturally the reverse of those of the borrower, while it is to the interest of the commercial paper house to receive as many commissions as possible. The actual duration of any given issue of notes will, therefore, be determined by the interplay of all these interests, but the result is very seldom less than three months, or more than six.

Economic Value of Commercial Paper Houses.—The advantages which accrue to the banker from the operations of the commercial paper house are considerable. Through these institutions, the banks can invest their surplus funds in an asset of first-class standing, choosing from the offerings one with a maturity that suits their convenience. In view of the fact that only large business enterprises are able to sell their paper on the open market, and that the commercial paper house invariably makes a careful investigation of the financial condition of the borrower before it purchases his obligations, it is apparent that the offerings of these houses represent a carefully selected group of temporary investments. If a bank has $50,000 which it will not need for five months, it can select, from the paper offered to it, notes which will mature in five months, and thus be sure, not only of the soundness of its investment, but of the repayment of the funds when they are needed. Commercial paper of this kind is never renewed. The custom of business requires that the notes must always be met at maturity, even if this is done through the sale of another issue of notes. No such custom exists in the case of the loans which a commercial bank makes directly to its customers. Requests for a renewal of such a loan are often made, and nearly as often granted. At a time of acute financial stringency throughout the banking system, commercial paper is no more liquid than any other investment, but, so long as the banks continue to extend credit, commercial paper comes nearest to that "self-liquidating paper" on which so much of American banking regulation is based.

In addition, through the services of the commercial paper house, the bank is able to diversify its assets, and attain a wide distribution of risks. Even when business as a whole is sound, one industry, or a particular geographical area, may be suffering from acute depression—and, when business as a whole is depressed, some industries or localities are harder hit than others. To avoid entangling its fortunes with those of any single group, the bank must distribute its loans widely, but this is no easy task. Being located in a single community, most of its credit is supplied to individuals and business enterprises within that community, and only in the case of a very large bank would it be possible to establish a system of agents in various parts of the country, by means of which the assets of the institution could be properly diversified as to risk. The services of the commercial paper house, as mediator, enable even the smallest of banks to achieve the same result by a careful selection from the various notes which are offered to it. Had such an institution not been in existence, it is probable that the banks would have been forced to cooperate in creating it.

Thirdly, the losses from commercial paper have been smaller than those resulting from any other of the assets held by the commercial banks of the United States. According to figures contained in a recent study,[1] the losses of commercial banks on various classes of assets were as follows in 1924:

Total losses by all banks on commercial paper	0.0011%
Losses of national banks on loans and discounts	0.0086%
Losses of national banks on investments in securities other than U. S. Gov't Bonds	0.0090%

From the viewpoint of the borrowing business enterprise, there are also distinct advantages. In the first place, it is enabled to escape from the limitations imposed by banking legislation upon the amount of credit which it can receive from the local banks, and, in addition, it is often able to

[1] *History of Commercial Paper, 1920–1924,* National Credit Office.

obtain the funds which it needs at a lower rate of interest in the open market than it would have had to pay on loans from those banks. Both of these are powerful inducements to the borrower to raise funds through the commercial paper house, and there is a third advantage, less tangible but none the less real, in the fact that a concern which is able to borrow in the open market will sometimes obtain a certain amount of advertising from that fact. Although it may not increase the volume of its business, it will attain a somewhat greater financial prestige, which will enable it to carry out its financial operations with greater facility.

Economic Dangers of the Commercial Paper House.— To the extent to which the operations of the commercial paper house supplement those of the commercial bank, an advantage clearly accrues to all parties. But the operations of the two institutions are not only supplementary; they are competitive While there are some cases in which a business enterprise is compelled to resort to the open market, because adequate credit cannot be obtained from the local banks, there are many other cases in which bank loans, and the sale of commercial paper in the open market, present themselves as alternative methods of obtaining the needed funds. In such cases, the banks and the commercial paper houses are in direct competition with one another, and the warfare is unequally waged, since the banks are burdened with an amount of legal regulation greatly in excess of that governing the operations of the commercial paper house. Moreover, the commercial bank recognizes, to some extent at least, an obligation to provide credit, at all times, for its customers, whereas no such duty is felt by the houses dealing in the open market.

As a result of this difference, it not infrequently happens that a business enterprise, which has obtained funds largely on the open market during a period of prosperity, will find the commercial paper house unwilling to purchase its notes when

a crisis, or depression, arrives. When the house feels that it will experience considerable difficulty in selling commercial paper, it will restrict its purchases, and the borrower is forced to fall back upon the commercial banks for the funds which are imperatively needed. This result of the commercial paper business is regarded with much apprehension by both the borrower and the banks. Unless the borrower has maintained banking connections adequate to meet all his needs (which is scarcely probable), he will find difficulty in persuading the banks to take care of him when he can no longer raise funds through the open market. The banks maintain, with perfect truth, that they have planned their operations in such a way that they may be able, at all times, to meet the legitimate needs of their regular customers, and that the sudden demands for credit from business enterprises which have been dealing on the open market, is not only inconvenient, but also tends to cause an unwarranted drain upon the resources of the bank itself. The bankers contend that the commercial paper houses skim the cream off the market in good times, leaving the bankers to meet the needs of borrowers of lesser financial standing; while in bad times the banks are compelled to supply all the credit needed by business.

The lack of responsibility of these houses may, in some cases, lead the borrower to overexpand his business operations during a period of prosperity. The Delta Company, having been carefully analyzed by its banker, may be found to deserve a line of credit of $50,000. The bank will normally meet its requests for credit to this amount without question, but any demands for credit beyond the agreed maximum would be carefully scrutinized, in view of the fact that the financial condition of the Delta Company was not originally thought to warrant accommodation in excess of $50,000. A commercial paper house may, however, advance another $50,000 to the company without question, thus enabling it to obtain funds to an amount twice as large as the figure set by the commercial

bank. Admittedly, the banker may be unduly conservative in some cases, and may underestimate the volume of business which his customer can undertake with safety, but that conservatism is an error in the right direction. The overexpansion of the activities of the borrower, which is made possible through funds obtained on the open market, often causes his financial position to be extremely precarious when business in general becomes less prosperous. Along the road of overexpansion lie financial reorganization, and, in some cases, bankruptcy, and, since the commercial bank has to meet these later conditions when they develop, it does not regard with any favor the operations of the commercial paper house which made the original overexpansion possible.

Dr. Steiner has suggested, as the result of a careful study, that "almost all (commercial paper) dealers make efforts to keep the volume of paper issued by the individual borrower within reasonable limits. They endeavor to see that the borrower also has sufficient bank lines open to take care of his open market borrowings."[2] This conclusion was reached on the basis of the replies made by the houses to questionnaires sent to them, and it is of particular interest as evidencing the standards which they are striving to attain. In the past their operations have been some distance below the ideal, however, and, although they have performed a service of immeasurable value to the commercial banks, they have exercised an adverse effect in so far as they granted credit too liberally. Some such institution as the commercial paper house was necessary to commercial banking in the United States, but the need would have been more satisfactorily met if the institution had been more definitely affiliated with the banks, and more amenable to control by them.

Commercial Paper Houses and the Economic Organization.—The commercial paper houses, nevertheless, performed

[2] W. H. Steiner, *Federal Reserve Bulletin*, August, 1921.

two services of importance to society as a whole. In the first place, they succeeded in linking together the various geographic areas of the country, and in so doing, they tended to equalize credit conditions in all of the local markets. Although these houses were never sufficiently important to insure an automatic flow of funds to the point at which they were needed, thus forming of the whole United States a single money market, they did correct the extreme inequality between the supply of funds, in various parts of the country, and the demands for those funds. Interest rates in the various local money markets showed less divergence from one another than would have been the case if no open market for commercial paper had existed.

In the second place, the commercial paper house was of service to society in the capacity of an analyst of credit risks. As we have already pointed out, such a house would naturally study the financial condition of the borrower very carefully, since the non-payment of the paper at maturity would reflect unfavorably upon the house itself. Credit analysis, therefore, developed with the commercial paper houses more rapidly than with the banks, and the former exercised an important influence upon the whole system of credit-granting by the standards which they set. Moreover, the commercial paper house, having made such a study of the enterprises from which it purchased paper, was in a position to furnish any information which might be desired regarding the financial condition of those enterprises.

CHAPTER 17

COMMERCIAL CREDIT AND DISCOUNT COMPANIES

To complete the picture of commercial banking in the United States, as it existed apart from the Federal Reserve System, we must include a group of institutions which are variously known as commercial credit companies, discount companies, finance companies, commercial investment trusts, or any number of more specialized names. Like the commercial paper house, these institutions operate on the principle of mediation, but, unlike the former, the commercial credit companies perform a service which the commercial banks are not fitted to perform, thereby serving business in an entirely new manner. The commercial credit company, moreover, differs from the commercial paper house, in that it does not sell the obligations which it purchases; it finances itself by the sale of its own obligations.

Apart from these general characteristics, the institutions with which we are now concerned differ radically from one another, both in their structure and in the methods by which they assist the business enterprise. In a recent study made by the Federal Reserve Board,[1] it was pointed out that the business of a finance company may, in practice, include any one or more of the following operations:

1. Discounting, or buying, commercial receivables, i.e., notes, accounts, or acceptances;
2. Advancing funds to dealers with which to purchase automobiles;
3. Advancing funds to enable dealers to sell automobiles to their customers on the instalment plan;

[1] *Federal Reserve Bulletin*, January, 1923.

4. Advancing funds to enable dealers to sell furniture, agricultural implements, books, musical instruments, refrigerators, restaurant fixtures, household utensils, electric appliances, etc., on the instalment plan; and,
5. Advancing funds against merchandise.

None of the commercial credit companies perform all of these functions. Indeed, these institutions tend to be highly specialized in the operations which they undertake, and most of them will confine their attention to one, or at most two, of the services outlined above. It is, therefore, possible to divide them into two broad groups, taking, first, the institutions which advance funds against receivables, and secondly, those which finance the distribution of automobiles.

Discount Companies.—While there is, as yet, no general uniformity in nomenclature, the name of discount company is widely used to describe those institutions whose primary operations are concerned with commercial receivables, and we shall simplify our discussion if we follow that practice. Of the receivables themselves, *"accounts comprise a large proportion of the receivables discounted,* notes and acceptances aggregating in no case over one-third of the total volume."[2] This is to be expected, since commercial credit instruments can themselves be used as the basis of a loan from the commercial banks, whereas accounts receivable are not generally acceptable for that purpose. Almost any kind of business enterprise may obtain financial assistance from the discount company, but the latter will sometimes refuse to advance funds against receivables which it regards, for any reason whatever, as being liable to involve a loss. The average maturity of the receivables at the time of discount is from forty-five to sixty days, although in some cases a duration of three or even six months has been allowed. On the whole, however, the receivables are short-term obligations, of a kind which will probably be paid at

[2] *Federal Reserve Bulletin,* January, 1923.

maturity, and although, in practice, some 15% of the accounts are not actually paid on the due date, the net loss sustained by the discount company is very small. "One company, over a period of about ten years, has had an average annual loss of 0.0012%, and another over a period of five years, less than one-tenth of 1%. Seldom does the loss go over one-half of 1%."[3]

The discount company customarily advances to the business enterprise about 75% or 80% of the face value of the receivables, paying the balance as the receivables are paid by the debtors. A margin of safety therefore exists, on the assumption that the discount company should not advance to the borrower an amount greater than that which the latter had actually expended on the transactions giving rise to the receivables. Since this margin is somewhat greater, in the majority of cases, than the percentage of the receivables which are not paid promptly at maturity, the discount company is strongly insured against losses.

Nevertheless, the risk and difficulty attaching to the business of a discount company are substantially greater than exist in regard to the operations of a commercial bank. Apart from the possibility of bad faith, on the part of the borrower, the assets which the lender receives consist of a multitude of small accounts, each of which would constitute an independent problem if a careful credit analysis were made, and each of which must be collected separately. In the majority of cases, the credit standing of the borrower himself is somewhat lower than the average of the customers to whom a commercial bank makes a loan, so that, for all of these reasons, the charges made by the discount company are substantially higher than the interest on a bank loan of a similar amount. While the actual schedule of charges will vary somewhat from one institution to another, the most common charge seems to be one-twenty-fifth of 1% a day, on the net face amount of the receivables,

[3] *Federal Reserve Bulletin*, January, 1923.

plus a charge of $5 per $1,000 on the first $100,000 of receivables discounted within any twelve successive months. Since the funds advanced to the borrower amount to only 75% or 80% of the face value of the receivables, the interest actually paid on the funds received is very much higher. If a business enterprise should discount $100,000 of receivables, the average duration of which was three months, it would pay in charges:

1/25 of 1% per day on $100,000 for 90 days	$3,600
$5 per $1,000 commission	500
	$4,100

If we assume that the business enterprise received an advance of 80% of the face value of the receivables, it would be paying $4,100 for the use of $80,000 during a period of ninety days, i.e., at the rate of 20.5% per annum! Any decrease in the proportion of the funds advanced at the time of discount would raise this rate, but, even at the figure suggested, it is ruinously high for most business enterprises.

The capital of the discount company is, like that of the commercial paper house, comparatively small in comparison with the volume of its business, and it is supplemented by borrowing from the commercial banks, or raising funds in the open market. The proportion of the funds obtained by the sale of notes to the commercial paper house is comparatively small, however, and most of the necessary accommodation is obtained from the commercial bank, by discounting the promissory note of the company itself. Through the use of bank credit, the discount company is enabled to pyramid its resources, so that the annual volume of business amounts to from 5 to 20 times the capital stock, while a turnover of from 8 to 12 times a year is quite common.

Economic Aspects of Discount Company Operations.— The business enterprises which seek accommodation from the discount company may be divided into two broad groups, and

must be so divided before we can appraise the economic functions of that institution. In the first place, we have those business enterprises that are already hovering on the verge of a bankruptcy which they are using every effort to postpone as long as possible. The financial statement of such an enterprise, if it were not deliberately falsified, would preclude all possibility of credit being obtained from a commercial bank, and, since immediate funds are needed to stave off liquidation for a few weeks longer, the business enterprise will be willing to pay any price whatever to obtain accommodation. Such cases as these predominated during the early years of the discount company, and even before that time they had been handled by the money lender. In either case, the result was the same; when bankruptcy actually came, it was more disastrous than it need have been, because the assets of the concern had been largely impaired by the security given to the lender, and the amount paid to it as charges. In such cases as these, the operations of the discount company have no economic value whatever; indeed, they are of positive detriment, since they intensify the weakness of the economic organization by undermining the weaker units. Unfortunately, the loans made by the discount companies to concerns which ought never to have received accommodation have left an indelible impression, which is partly responsible for the fact that, even today, the commercial banks regard with suspicion any business enterprise which pledges its accounts receivable to a discount company.

The second group of borrowers, which today constitutes the majority of the enterprises receiving assistance from discount companies, consists of businesses that need working capital in excess of the amount that can be obtained from the commercial banks. The position of these enterprises may be perfectly sound, from a financial viewpoint, and they may be rated very high in point of credit standing, but, owing to a desire to expand beyond the limits imposed by the conservatism of their banker, they find themselves in need of additional

funds. In the case of a large business enterprise, the need would be met by resorting to the commercial paper house, but this avenue is not open to the smaller enterprises whose reputation is purely local, and so they rely upon the discount company.

The business enterprises which resort to the commercial paper house are usually in need of loans greater than the maximum which could be granted by their banks, and they can, moreover, obtain funds more cheaply in the open market. Neither of these arguments hold good with reference to the customers of the discount company, for the cost of the accommodation is ruinously high, and the amount of funds needed by the borrower is often within the capacity of its bank. The nature of the loan is, however, such as to make it impossible for the commercial bank to handle it, and, in taking over such customers, the discount company is performing a distinct economic function. By reason of its careful investigation of the borrower, and of the close supervision under which it keeps him while the loan is outstanding, the discount company is able to handle this kind of business without undue risk, and can therefore borrow from the commercial banking system the greater part of the funds which it needs. To the extent that it does this, the discount company fills an important place in the financial system.

But it must be remembered that the discount company extends credit to concerns which, in the opinion of the banker, are already using as large a volume of credit as they can safely handle. Although the banker may be unduly conservative in some cases, the question arises as to whether the discount company may not sometimes exercise a harmful economic effect by overextending credit. No dogmatic answer can be given to that question, but an eminent student of the financial organization has suggested that, "it may reasonably be contended that, during periods of great business activity and attending financial strain, the added expansion of credit which these institutions make possible only serves to make the task of

eventual credit contraction and business readjustment the more difficult."[4]

Auto Finance Companies.—As in the previous case, no general agreement as to precise name has taken place, but we can use the term auto finance companies to describe those institutions which finance the distribution of automobiles. There is little practical difference between this institution and the numerous finance companies which have been created to finance the distribution of innumerable other articles, but these operations were largely developed in connection with the automobile industry, and we shall therefore confine our discussion to this field—although most of it would be equally applicable to pianos, radios, and many other articles. Despite the many popular arguments to the contrary, bankers have continued to regard automobiles as a luxury product, and have hesitated to advance the funds necessary for their distribution. But, in the majority of cases, the dealer in this field has but little capital, and is compelled to obtain additional funds in order to pay for the cars obtained from the manufacturer. The financial situation of the ultimate purchaser is not very different. Of the million and a half passenger cars which are annually sold in the United States, between one-half and three-quarters are purchased on instalments—while, in the case of trucks, the percentage is even higher. A special institution has, therefore, been created to meet the financial needs of the dealer (under what is known as the wholesale plan), and of the ultimate retail purchaser.

Under the *wholesale plan*, the finance company advances to the dealer an amount equal to between 80% and 90% of the price at which the latter purchases the car from the manufacturer. The actual proportion will vary somewhat from one case to another, being affected by the make of the automobile, the credit standing of the dealer, and the place where the car is stored. In regard to the last, it must be remembered that the finance company relies primarily upon two sources for

[4] H. G. Moulton, *Financial Organization* (2nd ed.), p. 423.

the repayment of its advance—upon the financial condition of the dealer, and upon the car itself. Opinions differ as to which of these two is of the greater importance, but in any case the automobile itself is a necessary security. If it is in a warehouse, and the finance company possesses the warehouse receipt, it can rest assured as to the safety of its collateral, but it may be that the dealer wishes to have the car on the floor of his showroom, for demonstration purposes. In that case, the finance company must be content with a trust receipt, and, since the value of the collateral security is then dependent upon the integrity of the dealer, the finance company will usually advance a smaller proportion of the price of the car than it would if the latter were stored in a warehouse.

The loan is made upon the dealer's promissory note, and the duration of the note will vary from one to six months, according to the season of the year at which the transaction is entered into. In addition to the collateral security, which the finance company possesses in the documents of title to the car, it sometimes secures from the manufacturer of the car a guarantee of payment of the dealer's obligation, or an agreement to repurchase the car—in either of which cases the risk of loss has been greatly decreased. Automobile manufacturers are willing to offer such a guarantee because the loans which the dealer obtains enable him to pay for the car more promptly, and, in reality, we may regard the operation as one of financing the manufacturer, since the latter is the party receiving the ultimate benefit of the transaction.

Under the *retail plan* the amount advanced by the finance company is based directly upon the retail price, so that a smaller percentage may give an amount of credit as large, or larger, than that granted to the dealer in the previous wholesale transaction. The proportion of the price advanced by the finance company varies between 50% and 75%, although most frequently it appears to be 66⅔%. Repayment of the advance may be spread over a period varying from six to twelve months,

the instalments generally falling due each month throughout the duration of the loan.

Regarding the security for such retail financing, the promissory note of the buyer is supported in all cases by some document giving title to the automobile itself as collateral security. But the car is no longer safely stored in a warehouse, or reposing in its pristine splendor in the dealer's storeroom; it is in actual use and, therefore, subject to depreciation from numerous hazards. To protect its security as fully as possible, the finance company requires the purchaser of the automobile to take out insurance against fire and theft, and in some cases against collision also. The soundness of the whole contract is, however, closely bound up with the moral integrity and trustworthiness of the borrower, and the finance company, being at some distance from the locality in which he resides, is at a disadvantage in appraising these factors. While it can gain much useful information from the financial statement, filled out by the purchaser, this is not adequate, and the dealer is required to guarantee the integrity of his customer by indorsing the customer's notes. With the promissory note of the purchaser, the indorsement of the dealer and some document of title to the automobile itself, the finance company is in a strong position to obtain the repayment of that part of the purchase which it originally advanced.

While there is little uniformity in the method of quoting rates on the part of auto finance companies, in regard to either the wholesale or the retail operations, the total charges usually amount to about 15% per annum in the funds outstanding.[5] One of the leading authorities states that, if the finance company is to make a profit, it must charge in excess of 12%, and, in at least one case, the charges amounted to 36%. This fact is sometimes obscured by the method of stating the charges. A company may specify a rate of 7%, but since the charges are calculated for the total advance throughout the entire period

[5] *Federal Reserve Bulletin*, January, 1923.

from the sale to the payment of the last instalment, the rate of interest on the funds outstanding would be proportionately higher.

Like the other intermediary institutions which have already been discussed, the auto finance company has a comparatively small capital in proportion to the amount of business which it carries on. It is dependent upon the commercial banks to as great an extent as the commercial paper house and the discount company, but unlike the latter its assets are in the form of tangible credit instruments, so that it finances itself in a rather different fashion. While a large amount of accommodation is obtained from the commercial banks, by discounting the unsecured notes of the finance company, this method is only of primary importance in the case of the smaller companies. The same is true of borrowings from the commercial banks against collateral, in the form of the notes of both dealers and automobile purchasers. The larger houses tend to rely upon the open market to a much greater extent, selling to the commercial paper houses either unsecured promissory notes, or collateral trust notes which are backed up by the deposit with a trust company of a part of the automobile paper previously purchased. In some cases, a substantial portion of the required funds are acquired through the sale of debentures, or collateral trust notes, in the investment market, but this has not become general up to the present time.

Economic Services of Finance Companies.—Finance companies are still comparatively young, having been created during the second decade of the present century, and, as frequently happens, the initial stages of development have not been free from abuses which tend to bring the institution into disrepute. Small companies have been formed, which, under inefficient managers, have overexpanded their operations and ended in bankruptcy. Such cases are not at all typical, but there is little doubt that the standard of the business would be greatly raised by more effective regulation. In 1924, the

finance companies themselves realized this, and came together to form the National Association of Finance Companies. Much discussion took place regarding both the standards and the methods of operation, and a code was drawn up which was to have been binding upon all the members, but, in practice, the results have been far from satisfactory.

While there may be some doubt as to the economic value of the services rendered by the discount company, no such uncertainty is possible in regard to the activities of those finance companies which have set out to supply the funds required in the distribution of automobiles, and many other commodities. Peculiar financial problems are encountered in this field. To begin with, the articles are comparative luxuries, for which the economic demand is highly elastic, while, in the second place, the institution which advances the funds must be capable of appraising the credit risks attaching, not only to the dealers themselves, but to all of the innumerable individuals who purchase cars, and whose financial standing will not be of any concern to the financial institutions of the country, except at those rare times when they purchase some article on instalments. Finally, in the case of retail financing, it has been necessary to set up an institution which was adequately equipped to attend to the details of collecting numerous small payments, during a considerable period of time.

The commercial bank itself is not equipped to handle this kind of business, and even if it should attempt to do so, the rates of interest which it generally charges would prove much too low. If the rates were raised to a point adequate to meet all the costs of the service, legal difficulties might be encountered. For all of these reasons, a specialized financial institution was urgently needed to meet the situation, and the finance companies have rendered yeoman service. They have perfected an organization which minimizes their own risks, and enables them to earn large profits, and at the same time, they have made it possible for the commercial banks and the invest-

ing public to supply the necessary funds with comparative safety.

In the absence of the finance company, it is probable that the financial problems connected with the distribution of a large number of industrial products would have proved insuperable, and it is certain that instalment purchasing could never have developed to its present extent. The finance company has, in large measure, facilitated that rise in the general standard of living which has characterized the last few years, and in that respect it has proved to have a high degree of social importance.

CHAPTER 18

THE CREATION OF THE FEDERAL RESERVE SYSTEM

The commercial bank is of paramount importance; it is the only institution in the whole financial organization which is able to create purchasing power, and in addition, its operations exercise a considerable influence on the formation of capital. While the commercial banks of the United States, and the other financial institutions that supplemented their activities, were frequently operated with considerable efficiency as individual units, it has become apparent in our discussion that the financial system of the country was utterly inadequate to meet the needs of industry and business. No matter how efficient and worthy the separate units may be, a mere aggregation of financial institutions does not constitute an effective banking system. In order to create a system, it is necessary to link those institutions together in such a way that they can all operate in harmony toward certain ends, which are of common importance.

Defects of the Existing Situation.—This weakness of the financial structure exercised a harmful effect, not only upon business, but upon the whole social organization. In the words of the Comptroller of the Currency, "We have grown and prospered in spite of an imperfect, repressing, and perilous banking and currency system. Over fifty years of growth under the National Banking Act has been forced by the generosity of the soil of a new land, by the unconquerable energy and resiliency of a virile people; yet it has been interrupted by periods of business depression and stagnation; our progress has been punctured by panics, discreditable, appalling—to many,

ruinous. . . . The immediate results have been failure of banks and commercial houses, the wholesale stoppage of industries, the wiping away of the results of honest thrift, denial to willing and hungry labor of the opportunity to earn bread and shelter."[1] Such an indictment is a strong one to level against a banking system, but it is supported by the opinions of innumerable writers and speakers, who have pointed out the defects of the old banking system—defects which were at last set forth with ponderous gravity by the National Monetary Commission.

To analyze each of its deficiencies in detail is no longer necessary, but, broadly speaking, we may say that prior to 1913 the banking system of this country was defective in regard to (a) the supply of credit, (b) the exchange and transfer system, (c) the supply of common money, and (d) matters of banking policy.

The Supply of Credit.—Although the commercial bank can, and does, create credit, we have already seen that severe restrictions were placed upon that power by the legal requirement that each bank must hold a specified minimum reserve in common money against its deposit liabilities. These reserves of common money constituted a rigid limitation; a national bank in New York City, which had $250,000 in its vaults, could not in any circumstances lend more than $1,000,000 to its customers. Indeed, it could not lend that much, because its total demand deposits could not exceed an amount four times as large as the stock of common money which it held!

The legal requirement of a minimum reserve ratio may not work any great hardship if it is applied to a large enough institution. If the total reserves of the country are brought together in one place, and are managed by a single institution, then the relationship between reserves and deposit liabilities is a good indicator by which credit policy can be guided. In such a case, a legal minimum reserve may be of use as a preventive against

[1] J. S. Williams, *Congressional Record*, 63rd Congress, 2nd Session, Volume 51, p. 10150.

undue credit expansion, and it was for such a reason that a gold reserve of 40% was required to be kept by the German Reichsbank, under the new law passed in 1924. Because the aggregate reserves of the community are pooled, it is usually possible to provide for an increased extension of credit to any section of that community, without in any way impairing the reserve ratio, because, in a large country, with diverse economic activities in various regions, it is highly improbable that all geographic areas, or all types of industry, will be in need of additional supplies of credit at the same time. When the demand for funds is heavy in an agricultural area it may be light in an industrial area—so that the granting of loans to the farmers may be regarded as a transference of the credit which the industrialists are not using for the time being. Moreover, if, as was the case in the United States, an increased demand for common money had to be met by depleting the reserves, a similar economy could be obtained. If all the reserves were centralized, an increased demand for cash in Louisiana could be balanced against a temporary diminution in the demand for cash at some other point, and the reserve ratio for the country as a whole would not be impaired.

Even in such a case, however, a legal minimum reserve ratio is of doubtful value, since it tends to restrict the operations of the banking system without conferring any benefit in return. But in the case of the decentralized banking system of the United States, the requirement was an unmitigated evil. Each individual bank was required to keep a specified reserve, the amount of which varied according to its geographical location. While the bank might keep a portion of that reserve on deposit with another bank in a larger financial center, it was none the less true that a country bank with a total reserve of $30,000 could not have deposit-liabilities of more than $200,000! If its deposits amounted to this figure, it could not grant additional loans, because in so doing it would decrease its reserve ratio. Conversely, it could not deplete its reserve by paying cash to

its customers without incurring a similarly unsatisfactory ratio. The bank which had extended credit to such an extent that the ratio of its reserves to deposit-liabilities had fallen to a point approaching the legal minimum, was on the horns of a dilemma! Within a small community no such general distribution was possible as existed in the country as a whole; the total demands for both credit and common money would vary considerably during the course of a year, and, if the bank was strong enough to meet the heaviest demand, it must have possessed substantial unused resources during the rest of the year—resources which were temporarily useless, although they might have been urgently needed in communities not very far removed from that in which the bank was situated.

To find an analogy to the banking system of this country before 1913, we would have to imagine that, having built up a large and efficient navy, the government should decide to distribute it around the coast. A battleship would be firmly, and immovably, anchored in the Hudson; a cruiser in the Delaware —and so on. On each vessel would be a "reserve" of ammunition, but the captain would be instructed to maintain that reserve intact, and under no circumstances to make use of the shells—not even in the battle. If such ideas should ever permeate the Navy Department, the largest navy in the world could easily be defeated by the combined efforts of the two vessels which compose the Brazilian fleet. Ridiculous as this illustration appears, it was perfectly true in the case of the bank reserves. These reserves could not be mobilized to facilitate a greater extension of credit, nor could they be paid away in case the bank was subjected to a "run"!

Finally, there was no method by which the reserves of the banks could be easily replenished, no discount market in which an embarrassed bank could sell some of its commercial paper, in order to use the proceeds as a basis for additional loans, or to pay them away in meeting the demands of its customers for cash. An individual bank might sell its bonds on the Stock

Exchange, but, if the stringency were general, bond prices would rapidly fall to an unprofitable level. Occasionally, a bank might be able to obtain a loan from its correspondent, but in time of financial difficulty, the correspondent bank was unable to grant such accommodation without unduly endangering its own position. The commercial banks tended to regard the rediscount of commercial paper, or any other borrowings, as a sign of weakness on the part of the bank which was seeking accommodation, and this psychological attitude, coupled with the absolute lack of any market on which the short-term assets of a bank could readily be sold, made it almost impossible for any bank to enlarge its reserve of common money in time of need.

Inelasticity of Common Money.—The rigidity and decentralization of bank reserves not only limited the volume of bank credit; they caused periodic famines in regard to common money, since, in practice, a bank could only meet the increased demands of its customers for cash by depleting its reserves. As we have already seen in a previous chapter, the supply of common money in the United States was highly inelastic—and this was true of the national bank note in a very marked degree. In order to issue such notes the bank was compelled to buy United States Government bonds, and in so doing it was naturally speculating in the price of those securities. When the price of the bonds fell, the issue of bank notes would tend to increase, despite the fact that there might be no increased demands for common money; when the price of bonds rose, the growing need of the community for cash was unable to produce any increase in the circulation of national bank notes.

Elasticity, moreover, involves not only expansion of the note issue; its contraction, when the demand for cash diminishes, is equally important. In this regard the bank notes were even more defective, for the formalities connected with their issuance were such as to persuade the banks to keep them in

circulation as long as possible, and any fall in the price of government bonds would accentuate this feeling. No bank would wish to retire the notes and sell the bonds, if the price of the latter was below that at which they had been purchased.

Finally, the maximum amount of the national bank note circulation was very definitely restricted by the total amount of government bonds in existence. Thus, between 1880 and 1891, the total volume of bank notes outstanding declined from $345 millions to $169 millions, a decrease of 51%. This retirement of half the circulation occurred during a period marked by rapid growth in population and wealth, and by remarkable industrial expansion and business activity. The sole reason for the diminution lies in the fact that the government was using the surplus of its revenue to pay off the funded debt, reducing its obligations in this regard by more than one-half in a period of eleven years. Expansion and contraction of the note issue certainly occurred, but they were motivated by factors totally apart from the state of business activity. In the words of one writer, "the sum of the whole matter is that, under the existing system of bank notes based upon government bonds, normal and automatic expansion and contraction of the currency, in response to the needs of trade, is flatly impossible." [2]

The Exchange and Transfer System.—The business activities of the country necessitated numerous payments at points some distance from the location of the business which had to meet the obligation. A Boston merchant might purchase lumber from Seattle; a Philadelphia manufacturer might purchase raw wool from Australia—for such payments might partake either of the nature of domestic or foreign exchange. Regarding, first, the question of domestic exchange, the clearing houses supplied a very effective mechanism through which the numerous payments within a given locality might be economically settled, but outside of the local community no such ma-

[2] A. D. Noyes, *History of the National Bank Currency*, National Monetary Commission, p. 20.

chinery existed. The collection of amounts due from distant points, and the making of remittances to meet obligations at distant points, were handled through the correspondents of the individual banks, but this system was both inefficient and uneconomical. Long delays were experienced, and in some cases the imperfections of the correspondent network caused the collection to be made in a circuitous manner. The costs were therefore very heavy, and this burden was inconvenient to both the banker and his customer, if they shared it; while, if it were not shared, this cost rested even more heavily upon the party which bore it. There was no nation-wide clearing system, such as that which exists in the majority of other countries, and as a result the flow of funds from one part of the country to another was very seriously restricted. Transfers of funds were not only expensive, they were very difficult and, in some cases, almost impossible, so that the country could not be linked together into one economic unit.

In the field of foreign exchange, the defects of the National Banking System were equally apparent. The whole mechanism of foreign exchange is based upon the bill of exchange, and since the importer may be unknown to the banks in the exporting country, the bill of exchange is usually drawn upon the importer's bank, and accepted by that institution. Such a service is regularly performed by the commercial banks of foreign countries, in return for a small commission, and the bank acceptance is the instrument used in almost all foreign payments. But the commercial banks of the United States were, before 1913, legally debarred from accepting bills of exchange! No bill of exchange could be drawn upon an American banker, so that, except in the case of the large importing houses with a world-wide reputation, no foreign bills of exchange could be drawn in terms of dollars!

Dollar-exchange was comparatively unimportant in international transactions, because the foreign exporter was in most cases unwilling to draw a bill upon the American importer.

But since the latter had to make payment, the transaction was financed with the assistance of a foreign bank. The Philadelphian who imported wool from Australia, would have his bank arrange a credit in London, so that the Australian exporter could draw a sterling bill on the London bank. When the bill arrived in London, the bank would accept it, and send the bill of lading and other documents to the Philadelphia bank, which would surrender them to the American importer in order that he might obtain possession of the wool. Ten days before the bill of exchange matured, the importer would pay to the Philadelphia bank an amount, in dollars, sufficient to enable the latter to purchase a sterling draft for the amount of the bill, together with the commission of the London bank. This draft would be sent to the London bank, to provide for the payment of the bill on the due date. While the actual procedure would vary somewhat from one case to another, the inability of banks in the United States to accept bills of exchange made it necessary to finance the foreign trade of the country through some foreign center. Much of this business went to London, so that America had to pay a substantial sum each year in commissions for the service, while, at the same time, the American trader had to assume the risk of fluctuations in the currency by means of which his dealings were financed. This burden was not a heavy one during the years immediately following the Civil War, when the foreign trade of the country was comparatively unimportant; but it became increasingly troublesome toward the latter part of the nineteenth century, and during the first decade of the twentieth.

Commercial Banking Policy.—Of greater importance than all of these things was the fact that, owing to the lack of effective coordination between the various institutions, no effective banking policy could be developed. Each bank worked entirely for its own immediate interests, and even those bankers who realized that their operations would ultimately produce results harmful to themselves, and disastrous to the economic

organization, were unable to make any headway against the force of competition. Free competition exercised even worse effects in the field of commercial banking than it did in regard to the railroads, but it was, nevertheless, allowed to continue long after railroad regulation began.

During a period of prosperity, for instance, a wise banking policy would have required some modification of the extension of credit, which would have kept the aggregate amount of the loans and discounts within safe limits. Such a policy could only be made effective through a discount rate, which was gradually raised in order to discourage unnecessary borrowing. But there was no such thing as a uniform discount rate in the United States. Each bank set its own charges for the accommodation which it extended, and the keen competition between the numerous financial institutions tended, during the early stages of increasing business activity, to depress rates to a level which was too low in view of the probable future developments. As a result, credit was extended too rapidly and in excessive amounts, so that the rise in interest rates was very steep as the period of prosperity drew to a close—to say nothing of the fact that the resultant crisis was much more severe than it need have been.

Moreover, in the absence of some effective control of the discount rate, it was difficult to protect the nation's gold reserve against excessive foreign drains. If, for any reason, the general level of prices in the United States should rise above that current in other gold standard countries, the imports of commodities into this country would rise, while the exports of commodities would diminish.[3] There would thus arise a strong tendency for gold to be exported from the United States to other countries, and this movement could only be checked by such a diminution of the total quantity of purchasing power as would cause the price level in America to fall to a point equivalent to that in other countries. Such a result would

[3] Refer to Chapter 5.

ultimately be attained by the depletion of bank reserves, due to the gold export, in which case an acute crisis would develop, and the nation's stock of gold would have been substantially reduced. Had the banking system of the United States been able to control the discount rate, the drain of gold could have been prevented more easily, and at a smaller economic cost, by a gradual rise in that rate, but, in the existing circumstances, such a policy was impossible because no institution existed which had adequate power to coordinate the banks, and guide them in support of the policy which it had formulated.

Expressing all this more briefly, there was no central bank in the United States—no banker's bank which could perform for the numerous separate financial institutions those services which they, in turn, perform for their customers. "Just as an individual bank economizes and mobilizes and makes flexible in amount the funds of individual members of the community, so a banker's bank mobilizes and economizes and makes flexible in amount the money of the banks." It was just such an institution which was needed to coordinate the banks of the country into a real banking system—since only in this way could the existing defects be eliminated.

Banking Reform.—These defects did not pass unnoticed, however. They had been observed and discussed long before they were remedied, but discussions of banking problems in the United States were often obscured by the more pressing questions of currency policy. The greenback era, the resumption of specie payments, and the long political contest over the question of free silver and bimetallism, all tended to attract greater popular attention than did the less obvious difficulties connected with the banking system. Even when banking reform was itself discussed, most of the attention was given to the question of bank note currency, and, right up to 1913, this continued to be one of the most talked-of elements in the whole situation.

Serious discussion of the problem may be said to have started with the panic of 1893. At this time, the country experienced a tremendous shortage of common money, and many substitutes were called into temporary use to serve as media of exchange. These events called the attention of the banking community to the practices which prevailed in other countries, and particularly in Canada, where the bankers had to deal with an economic situation which did not differ markedly from that of the United States. In 1894, the American Bankers Association put forward the "Baltimore Plan," which was similar to the Canadian practice of protecting the issue of bank notes by means of a joint guarantee fund, to which all of the banks contributed, but, before any legislative action could be taken in regard to this proposal, the country was embroiled in the "free silver" campaign of 1896. No question of banking reform could hold popular attention in the face of such a battle, both economic and political, and the matter dropped.

Three years later, however, there met at Indianapolis a convention of various commercial organizations which appointed a commission for the purpose of "making a thorough investigation of the monetary affairs and needs of the country in all relations and aspects, and submitting proper suggestions as to the evils found to exist and the remedies therefor." The Indianapolis Currency Commission finally issued a report advocating the legislative establishment of the gold standard; the creation of a separate gold fund at the Treasury to support the greenbacks; and the issue of bank notes secured by commercial paper, rather than by bonds. This time it was the Spanish-American War which intervened to distract popular attention, but after the conclusion of the war, some of the recommendations of the Commission were embodied in the Gold Standard Act of 1900. The gold dollar, by this act, became the sole monetary standard of the United States, and a fund of $150 millions was set aside by the Treasury to secure the outstanding circulation of greenbacks and Treasury notes of 1890. No

radical change was made in regard to banking, however. All that was accomplished was a reduction in the minimum capitalization of national banks in towns of 3,000 inhabitants, and an authorization to issue notes up to the full par value of the government bonds (as against the 90% limitation which previously prevailed).

The increase in the circulation of national bank notes, which resulted from this legislation, appeared to be a solution to the problem, and popular interest in banking reform diminished somewhat. But there was still a strong body of opinion, both in Congress and outside, which regarded the Act of 1900 as a temporary step, and these men gradually came to look upon currency problems as only one aspect of the more complex task of remedying the defects which existed in the banking system as a whole.

Matters were brought to a head by the disastrous panic of 1907. The commercial banking system collapsed entirely, and so great was the scarcity of money throughout the United States that some $500 millions had to be issued in the form of such temporary media of exchange as clearing house certificates, cashier's checks, and checks issued by business enterprises.[4] Other nations experienced a crisis at that time, but in no other country was there a panic at all comparable to that suffered by the United States. It was apparent that the reason for this contrast was, in part at least, the difference of the commercial banking system from that which existed in other countries, and a strong popular agitation for banking reform soon became evident.

Congress felt called upon to do something to meet the situation, and during the early part of 1908, bills were passed by both the Senate and the House of Representatives. After the two had been harmonized and combined in conference, the Aldrich-Vreeland Act was finally passed. The immediate effect of this Act was to render possible an increase in the bank note

[4] A. Piatt Andrew, *Substitutes for Cash in the Panic of 1907*, National Monetary Commission.

circulation in times of emergency. It provided for the organization of "national currency associations," composed of at least ten national banks with unimpaired capital, and a surplus of at least 20%. In no case could the combined capital and surplus of the members of such an association be less than $5 million. Notes could be issued by these banks against the security of certain kinds of bonds, or commercial paper, deposited with the association, but a tax was placed upon the notes so issued which increased rapidly the longer they remained in circulation, so that there was a strong inducement to retire them as soon as the emergency passed. The Act also provided for the issue of notes by an individual national bank against bonds of certain kinds, which had been deposited with the Comptroller of the Currency.

Although this Act was to expire on June 30, 1914, the outbreak of war in Europe caused it to be immediately renewed. Three hundred and sixty-eight million dollars of emergency currency notes were issued, of which the greater part was secured by commercial paper, and, as a result, this country was able to weather the crisis without any currency shortage.

An even more important provision of the Aldrich-Vreeland Act was the creation of a National Monetary Commission, composed entirely of Senators and Representatives, which was to make a careful study of the whole problem and bring in a report. This commission traveled widely, both in the United States and Europe, and published nearly fifty volumes of information, consisting partly of scholarly monographs by eminent authorities and partly of its own investigations.

Its pleasant career was, however, cut short by the elections of 1910, which placed Congress in the control of the Democratic party. In the face of increasing criticism of its delay, the National Monetary Commission was compelled to bring in a report, and, in December, 1910, it recommended the measure which subsequently came to be known as the Aldrich Bill. The aim of this bill was to set up a central banking organization

closely modeled upon those of Europe, but "out of deference to those great financial experts who write the banking clauses of political platforms, and whose bans and edicts are blessed with sacerdotal infallibility," the term "central bank" was not used. Instead, it was proposed to set up a national reserve association at Washington, with a capital of $300 millions, subscribed voluntarily by the banks. The country was divided into fifteen districts, and a branch of the reserve association was to be established in each district.

The bill was very vigorously opposed, partly because of the personal unpopularity of Senator Aldrich, and partly owing to the popular distrust of any such centralization of power in the hands of the bankers themselves. But the problem of banking reform was in the forefront of current thought. A "National Citizens' League for the Promotion of a Sound Banking System" was organized, and under the guidance of J. Laurence Laughlin, it conducted a vigorous campaign to educate the public to the fundamentals of sound banking policy. In 1912, the Democrats gained complete control, and President Wilson was anxious that banking reform should immediately be embodied in legislation. A bill was prepared under the chairmanship of Representative Carter Glass, which was intended to be more democratic than the Aldrich Plan, and which would not allow the bankers themselves to have complete control of the central institution. Naturally, the bill incorporated the results of the work done by the National Monetary Commission, and of the popular discussion of the subject, but it differed substantially from the Aldrich Bill. As Professor Willis has stated, "The Aldrich bill provided for a single central 'reserve association' with scanty public oversight, with control vested practically wholly in the banks, and with the preponderance of power in the hands of the larger institutions which owned stock. It so arranged things as to keep this 'reserve association' relatively inactive except upon special occasions of panic or disturbance. It made no direct provision for the shifting of

reserves in part from existing banks to the proposed association. . . . The new (Federal Reserve) Act provides for twelve reserve banks, introduces the principle of local control, calls for strict government oversight, shifts reserves from present correspondent banks to the new institutions, minimizes the influence of the larger banks in directorates, and generally diffuses control instead of centralizing it. It leaves banking as such to be practiced by bankers; it vests the control of banking in the hands of government officers." [5]

Suggestions for Further Reading

Agger, E. E. Organized Banking. H. Holt & Co., 1918, Ch. XII.

Phillips, C. A. Readings in Money and Banking. The Macmillan Co., 1916, Ch. XXX.

Willis, H. P. The Federal Reserve System. The Ronald Press Co., 1923, Chs. I–VI.

Willis, H. P., and Edwards, G. W. Banking and Business. Harper & Bros., 1925, Ch. XXVI.

[5] H. P. Willis, *The Federal Reserve*, p. 68.

CHAPTER 19

THE STRUCTURE AND FUNCTIONS OF THE FEDERAL RESERVE SYSTEM

According to its preamble, the Federal Reserve Act was passed in 1913, "to provide for the establishment of Federal Reserve Banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes." In brief, it aimed to correct the defects of the old banking system by creating institutions which should correspond to the central banks found in other countries, but, owing to the vastness of this country, it was not thought desirable (nor would it have been politically possible) to duplicate the central banks which exist in England or France. Instead, the country was divided into twelve districts (Figure 8) in such a way that each district should constitute a homogeneous unit in regard to the nature and extent of the economic activities carried on within its boundaries. An attempt was made to set up districts in which the commercial banking system should be of approximately equal strength, and, for this reason, the geographical area varies greatly from one district to another, as the accompanying map clearly shows.

Within each Reserve district, a Federal Reserve bank was incorporated, the location and approximate size of these institutions being shown in Table XIII.

Although the tradition of American banking is opposed to the establishment of branches, it was felt that the work of Federal Reserve banks could be carried on more efficiently if they were allowed to set up branches in various parts of their district—a provision of particular importance in some of the

TABLE XIII. SIZE OF FEDERAL RESERVE DISTRICTS, 1928

Location of Bank	Number of Member Banks	Paid-Up Capital of Federal Reserve Bank (000 omitted)	Surplus of Federal Reserve Bank (000 omitted)
1. Boston	408	$ 10,156	$ 19,619
2. New York	938	50,124	71,282
3. Philadelphia	778	14,536	24,101
4. Cleveland	816	14,419	26,345
5. Richmond	547	6,154	12,399
6. Atlanta	453	5,231	10,554
7. Chicago	1,252	18,478	36,442
8. St. Louis	587	5,408	10,820
9. Minneapolis	719	3,009	7,082
10. Kansas City	932	4,224	9,086
11. Dallas	780	4,329	8,690
12. San Francisco	627	10,868	17,978
Total U. S.	8,837	$146,936	$233,319

western districts which covered a very large geographical area. To supplement the services of the twelve banks, some twenty-four branches and two agencies have been opened at the points indicated on the map. Finally, in order to give cohesion to the whole system, there was established in Washington a Federal Reserve Board, which was intended to exercise a general supervision. To obtain a clear impression of the changes brought about by the Federal Reserve Act, it will be convenient to begin with a discussion of the general structure of the system which has been created, and then to proceed to a discussion of the functions of the various institutions.

The Structure of the System.—Starting with the *Federal Reserve Board,* we have a body of eight men established in Washington. The Secretary of the Treasury and the Comptroller of the Currency are ex-officio members of the Board, the former being Chairman, and six other members are appointed by the President, with the advice and consent of the Senate. From among the appointed members one is selected

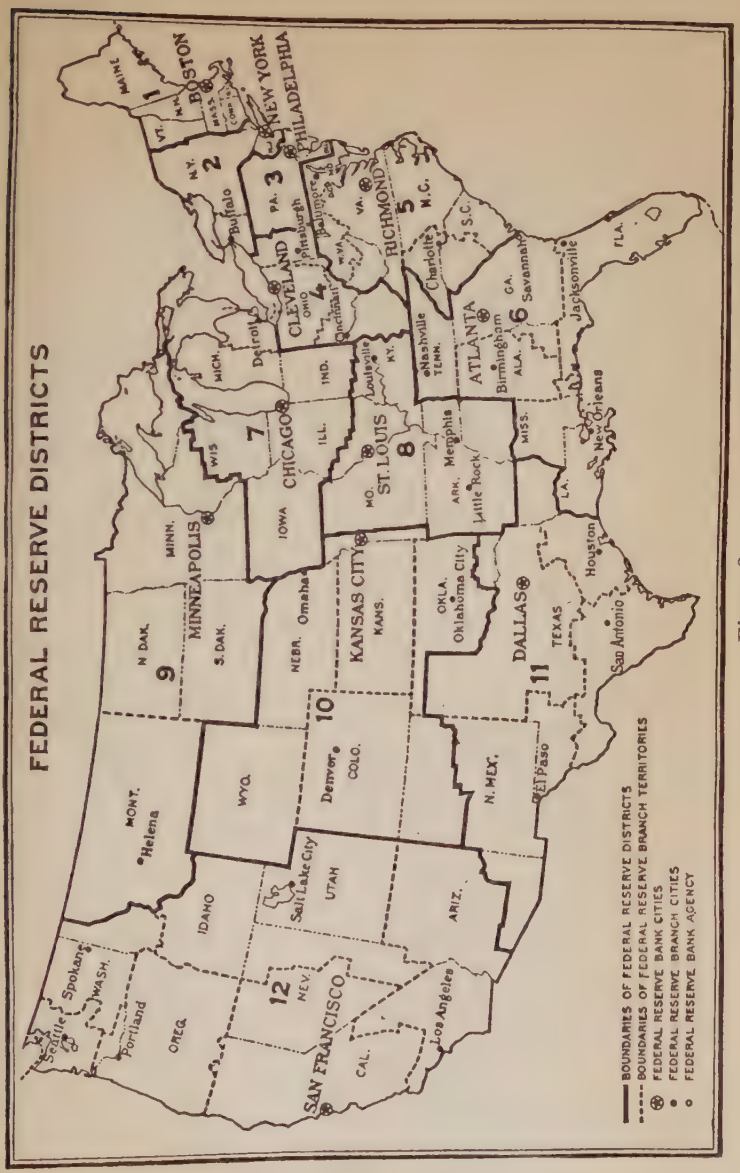
FEDERAL RESERVE DISTRICTS
BOSTON
NEW YORK
PHILADELPHIA
CLEVELAND
RICHMOND
ATLANTA
CHICAGO
ST. LOUIS
MINNEAPOLIS
KANSAS CITY
DALLAS
SAN FRANCISCO
BOUNDARIES OF FEDERAL RESERVE DISTRICTS
BOUNDARIES OF FEDERAL RESERVE BRANCH TERRITORIES
FEDERAL RESERVE BANK CITIES
FEDERAL RESERVE BRANCH CITIES
FEDERAL RESERVE BANK AGENCY

Figure 8

as Governor, and another as Deputy Governor, and these two are the executive officers through whom the policies of the Board are administered. Although a large and highly efficient organization has been set up to facilitate the work of this body, it is fundamentally no more complex in its structure than the above description would imply.

The *Federal Reserve banks* are incorporated by federal charter. Each bank must have a subscribed capital of at least $4,000,000, of which one-half has been paid up, and the capital stock is held in its entirety by the member banks. Naturally the banks which invest their money in this stock will expect to receive some return on their investment; but, since the Federal Reserve bank is a semi-public institution, which should be influenced by consideration of public welfare rather than by motives of pecuniary profit, it was necessary to prevent the question of dividends from influencing the management. The capital stock, therefore, carries a cumulative dividend of 6% per annum. Net profits in excess of this amount are to be paid into a surplus fund, until that fund is equal to the subscribed capital of the bank, and after that 10% of the net profits (after the payment of dividends) will be added to the surplus, while the remaining 90% will go to the Government of the United States as a franchise tax. The amount of profits, in excess of the 6% dividend, is therefore a matter of no concern to the stockholders, and the bank is under no pressure to pay high dividends.

The control of the bank's policies is vested in a board of nine directors, which is divided into three different groups. Three men, known as class A directors, are representatives of the member banks, and are elected by them; the three class B directors, who are also elected by the member banks, are to represent the industrial and commercial interests of the district, and may not be officers or directors of any commercial bank; the class C directors are intended to represent the interests of the community at large, and are appointed by the Fed-

eral Reserve Board. One of these class C directors is nominated by the Board as Federal Reserve Agent for the district, becoming, by that token, the chairman of the board of directors, and being charged with the duty of maintaining close contact between the Federal Reserve bank with which he is connected, and the Federal Reserve Board.

The method by which the directors in class A and class B were to be elected presented a difficult problem. If the votes were to be apportioned among the stockholding banks, on the basis of the amount of Reserve bank stock held by each, the larger commercial banks would exercise a controlling influence; if each bank were to have only one vote, the smaller banks would constitute a majority. Neither solution was acceptable, since all classes of banks should be equally represented, so that a method of election was developed which is somewhat reminiscent of the nursery story concerning "The Three Bears." The member banks are divided into three groups: those with average capitalization; those with a capitalization larger than the average; and those with a capitalization smaller than the average. Each of these groups must contain approximately one-third of the total number of member banks, and each group will elect one class A and one class B director. As a result, the little banks will have two directors of their own, the middle-sized banks will have two, and the big banks will have two—each group being equally represented in the administration of the Federal Reserve bank.

At the time of the passage of the Act, it had been expected that the Federal Reserve Agent would be the executive officer of each Reserve bank—but in practice this has not proved to be true. The board of directors have, in all cases, appointed a Governor, choosing for this post an individual who is not only a trained banker but who is considered competent to direct the operations of the bank, and to carry into effect the policies on which the directors shall decide. In this task he is assisted by a large number of assistants, so that in the course of time

the various Reserve banks have each built up an elaborate and highly efficient organization.

Since any central banking organization is based upon the commercial banks of the country, the *member banks* constitute a very important element. When the Federal Reserve System was created, there was some doubt as to the willingness of the commercial bankers to participate in what they regarded as an experiment, and it was thought necessary to exert pressure upon them to bring them in. All national banks were therefore required to become members of the Reserve bank of the district in which they were situated, and all state banks and trust companies were cordially invited to accept membership, provided that they could satisfy certain eligibility conditions in regard to their capitalization and the nature of their operations. As a matter of fact, the state banks and trust companies showed no very great enthusiasm for the new system during the first few years of its existence, and it was not until after the United States had entered the war that any substantial number of them accepted membership. Even today, only one-third of the commercial banking institutions of the country are directly affiliated with the Federal Reserve System, but this is primarily due to the existence of a large number of banks which are too small to be admitted to membership. In point of aggregate resources, the members of the Federal Reserve System represent more than two-thirds of the banking power of the country, so that the majority of the bigger institutions are obviously participating in it.

The obligations incurred by membership in the system are two in number. In the first place, a member bank must subscribe to the capital stock of its Reserve bank an amount equal to 6% of its own capital and surplus. This stock bears, as we have already seen, a cumulative dividend of 6%, and, in the case of a state bank which withdraws from the system, the stock will be repurchased at par by the Federal Reserve bank. No serious inconvenience can therefore result from the obliga-

tion, and it has the advantage of insuring that the capital of the Reserve bank will increase in proportion to the growth in the aggregate capitalization of the member banks. Secondly, the member bank is required to keep on deposit with the Reserve bank an amount of reserve proportional to its deposit liabilities. The size of the required reserve depends upon the location of the member bank, being in the case of demand deposits, 13% in Central Reserve cities, 10% in Reserve cities, and 7% for banks in other places. In the case of time deposits a reserve of 3% is required in all cases.

As compensation for the obligations which it assumes, the member bank is entitled to all of the services performed by the Reserve bank. The nature of these services is discussed below, in connection with the functions of that institution, but, in brief, we may say that, in losing its apparent independence, the commercial bank has become part of an organic system, upon which it can lean, and in the benefits of which it participates.

Finally, there is the *Federal Advisory Council*, a body of twelve men, of whom one is appointed by each Reserve bank. As the name implies, its functions are entirely advisory. It exists for the purpose of discussing problems of banking policy in the light of the economic conditions which prevail in the various parts of the country, and, on the basis of that discussion, it makes recommendations to the Federal Reserve Board upon which the latter body may act if it sees fit.

The System as a whole links up the commercial banks throughout the country into one organization, no matter whether they be national banks, state banks, or trust companies. A more vital difference today exists between member banks and non-member banks, than that which separated the various groups under the older classification. Omitting for the time being the smaller institutions, which are not affiliated with the System, we see that within each district the individual banks are linked together by means of the Federal Reserve bank, while the twelve districts are, in turn, coordinated through the

Federal Reserve Board. Figure 9 illustrates this relationship in a general way, but, before we can appreciate its full significance, we must study the functions of the Federal Reserve Board and of the Reserve banks.

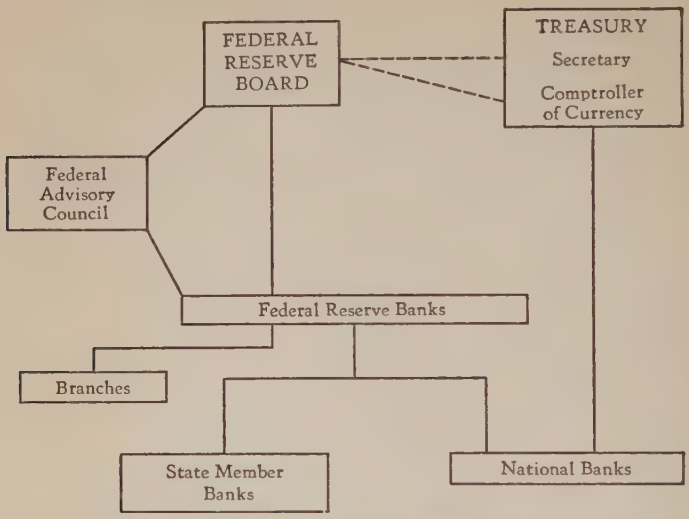

Figure 9. The Structure of the Federal Reserve System

The Functions of the Federal Reserve Board.—As the centralizing agency of the whole system, the Federal Reserve Board is charged with three functions of a somewhat similar kind—coordination, regulation, and supervision. The *coordinating* activities of the Board are of paramount importance, since it would be intolerable to have twelve separate central banks within the country, entirely independent of one another, and frequently operating at cross purposes. But it is difficult to suggest, in a few words, the means by which the activities of those banks are coordinated, and the system welded into an effective machine. This result is achieved, partly, through conferences at which all of the banks participate; partly through the work of the Advisory Council; and partly through the mediation of the Board itself. Its activities in regard to regu-

lation and supervision are, in part, directed toward the same end, and must be regarded as closely connected with it. There is, however, one outstanding method by which the System may be unified to meet an emergency, for the Board has the power to compel a Federal Reserve bank to extend credit to any other Reserve bank, which may be in temporary financial difficulty, by rediscounting some of the commercial paper held by the latter. In such an emergency, the Board can direct the resources of the whole country to the section which is in direst need, but, apart from this exception, its influence is exercised largely through the other two functions.

Under the heading of *regulation*, the Board is able to prescribe rules governing the methods of operation and procedure of the Reserve banks in all those matters in which uniformity is necessary. It has specified the kinds of paper which are eligible for rediscount, drawn up regulations under which the clearing system is operated, and required standard accounts and reports in the case of both Reserve banks and member banks. Regulations have been promulgated regarding the admission of state banks to membership, and permitting them to withdraw; regulations exist governing the operations of the Reserve banks in the open market, and in a host of other ways the rulings and regulations of the Federal Reserve Board have developed a uniformity of banking practice facilitating effective cooperation.

Finally, the Board exercises a continual *supervision* over the whole system. It has the power to conduct examinations of the Reserve banks, and of the member banks; it may require reports from time to time; and it is charged with the duty of detecting, and eliminating, any malpractices and illegal operations which may arise within the System. In certain matters this supervision is of particular importance. Discount rates, for example, are fixed by the individual Reserve banks subject to "review and determination of the Federal Reserve Board." The volume of Federal Reserve notes in circulation is directly supervised by the Board, which is empowered to refuse any

particular application for issue, and to vary from time to time the requirements as to collateral security, while, in an extreme case, it may cause a contraction of the issue by imposing a tax upon the notes outstanding. A similar power rests with it in regard to credit, since by a reduction of the required reserves, or a change in the discount rate, it may increase or decrease the ability of the commercial banks to grant loans to their customers.

The Federal Reserve Board, through its administration of these powers, can therefore exercise a considerable influence over the whole system; but it must be admitted that the history of its operations does not present too roseate a picture. When the Act was originally under discussion, the bankers of the country wished to have a board composed of men with banking experience but, largely owing to the opposition of William Jennings Bryan, this suggestion was replaced by one which required only two members of the Board to have had experience in banking and finance. Even this qualification disappeared in 1922, and at the present time (1930) the members of the Board include, in addition to the two ex officio members, one farmer, two lawyers, a newspaper man, a university professor, and a merchant. Too often appointments to the Board have been regarded as a suitable reward for political services, and there has been no fair opportunity to learn what could have been accomplished if the Board had been composed of far-sighted and able men with financial training. In the face of these weaknesses, however, and of the many difficult problems which the war created for the Reserve System during its formative years, the Federal Reserve Board has succeeded remarkably in its efforts at coordination.

The Functions of the Federal Reserve Banks.—If we regard the Federal Reserve Board as the coordinating body, deciding upon matters of broad policy, and inspiring the cooperation necessary to achieve the ends to which that policy

aspires, we must look upon the individual Reserve banks as the institutions which perform the practical operations of central banking. It is the Reserve banks which are in daily contact with the commercial banking institutions of their district, which must meet the day-to-day problems of those bankers, and care for them in time of need. Here we have the institution which most nearly resembles the European conception of a central bank, an institution which performs for the banker services similar to those which he in turn renders to his customer. But a central bank does more than this, for it must include within its vision the whole economic organization of the community, and develop its policies in such a manner that they will promote the general welfare. To the commercial banker such considerations are only of secondary importance; to him the pecuniary profit motive is both spur and guide, so that the central bank must assume the task of controlling the whole banking system in such a way that its operations may be of the greatest ultimate benefit to society as a whole.

This is no easy task, and, before we involve ourselves too deeply, it may be well to split up the functions of the Reserve banks in such a way as to facilitate our discussion. Like ordinary commercial bankers, the central banks receive deposits, furnish a medium of exchange, and extend credit—but the similarity must not be pressed too far, since the nature of the functions is entirely different in the two cases. Moreover, the Reserve banks perform additional functions, so that we can isolate six functions that are of primary importance:

1. The Reserve bank holds the reserves of the banking system;
2. It extends credit to the member banks;
3. It issues Federal Reserve notes;
4. It acts as fiscal agent to the government;
5. It operates a clearing and collection system; and
6. It controls the volume of credit.

The function of the Reserve bank as the *guardian of the total banking reserves* for its district is of paramount importance. As we have already seen, each member bank must keep on deposit at its Reserve bank an amount equal to the legal minimum reserve. No longer do the reserves of the commercial banking system take the form of innumerable hoards of cash, secreted in the vaults of the various banks. They represent a united fund equal to the aggregate deposit balances of those banks at the Reserve bank. Against these deposits, the Reserve bank itself is required to hold a reserve of 35% in gold or lawful money, so that the first result which impresses us is the extent to which credit can be pyramided. Behind the deposit balance of a Philadelphia bank, amounting to $1,000, the Reserve bank will hold $350 of gold or lawful money; but, since Philadelphia is a Reserve city, the Philadelphia bank need only hold a reserve of 10%, so that its demand deposits may amount to $10,000 on the basis of its balance with the Reserve bank. In practice, therefore, bank deposits aggregating $10,000 are based upon $350 in gold or lawful money, but such a proportion is perfectly sound in view of the fact that the reserves of the district are concentrated, and can be moved rapidly to any point at which common money is needed. If an emergency should arise to undermine the confidence of the public in the Philadelphia bank, that institution could (if it were financially sound) obtain from its Reserve bank an amount of common money adequate to meet all the demands of its depositors.

By this centralization of bank reserves, a great economy has been attained, since the proportion of reserves to total demand deposits has been greatly reduced. At the same time, however, the mobility which centralization has created tends to make the existing reserves very much more effective than were the larger reserves during the period prior to 1913.

These are not, however, the only benefits which have been attained by the pooling of reserves. When we take into account

the ability of the Reserve bank to extend credit to its members, it is apparent that the country has benefited by a new elasticity in regard to the total volume of credit. Under the Federal Reserve Act, and the regulations of the Reserve Board, a member bank has the right to obtain accommodation from its Reserve bank. In the first place, it may rediscount with the Reserve bank commercial paper of the kinds declared to be eligible by the Board, i.e., paper arising out of commercial, industrial, or agricultural transactions, which matures within ninety days of the date of rediscount.[1] Alternatively, the member bank may borrow from the Reserve bank on its own promissory note, depositing eligible commercial paper as collateral for the loan. In both of these cases, the member bank has a right to demand accommodation, if it is financially sound, but there is also a third method by which the Reserve bank may, if it so desires, extend credit to a member bank: it may purchase from the latter in the open market bank acceptances or government bonds.[2]

Now when a member bank obtains accommodation from its Reserve bank in any of the above ways, the transaction is handled in the same manner as any loan or discount made by a commercial bank to its customer; the borrowing member bank receives a credit to its account at the Federal Reserve bank. Such a credit augments its reserve just as effectively as would a deposit of cash, so that the member bank is, in its turn, enabled to grant new loans to its customers.

Let us imagine a situation in which the reserves of the member banks in a given district had fallen so low that no further loans could be made. If the Reserve bank felt that an increase in the outstanding volume of bank credit would be beneficial to the community, and if it held gold and lawful money in excess of the necessary 35% of its demand deposits,

[1] Agricultural paper with a maturity of six, and in some cases nine, months is also eligible.

[2] See Chapter 20.

it could extend credit to the member banks. The member banks, in their turn, would regard the proceeds of these loans as reserves, leave them on deposit with the Reserve bank, and extend credit to their customers to an aggregate amount between 8 and 14 times as great as the new credit created by the Reserve bank. For every $35 of gold or lawful money in its vaults, the Reserve bank could lend $100 to a member bank, and the latter, in its turn, could extend credit to the amount of $1,428 if it were a country bank, $1,000 if it were located in a Reserve city, and $769 if it were situated in a Central Reserve city. The possible expansion in the total quantity of purchasing power in the community, so long as the Reserve bank has gold or lawful money in excess of the required reserve against outstanding deposit liabilities, is almost infinite.

But, even if there were no excess gold in the vaults of one of the Federal Reserve banks, an expansion of credit would still be possible provided that the other Reserve banks had reserves in excess of their needs. The Federal Reserve Board could order the transference, by means of rediscounting, of the necessary amount of gold to the embarrassed Reserve bank, and credit extension could go on as before. Finally, in the event that none of the Reserve banks had unused lending power, it would still be possible to expand the total volume of bank credit, since the Federal Reserve Board is empowered to lower the reserve ratios to meet such an emergency! It is clear, therefore, that the banking system can expand the volume of credit to any desired extent, as a result of the centralization of reserves, and the power of the Reserve banks to create credit.

In the light of our previous discussion of the credit policies of the commercial banks, it might be suggested that any such expansion of bank credit would soon be brought to a halt by the increasing demands of the public for common money. Prior to 1913, such a demand could only be met by depleting

the bank reserves, and so reducing the lending power of the banks. Under the Federal Reserve Act, however, two new forms of common money have been created, the *Federal Reserve bank note* and the *Federal Reserve note*. The bank note is not of very much importance today. It is secured by United States bonds, and is similar in every way to the old national bank note, being intended to replace the latter if the national banks should wish to retire their circulation, and take advantage of the opportunity to sell the underlying bonds at par to the Federal Reserve banks. Few banks took such a step, however, and, although there are still in circulation a few of the Federal Reserve bank notes which were temporarily issued during the war (to replace the silver certificates withdrawn from circulation), they constitute an insignificantly small portion of the common money of the country.

The Federal Reserve note is in an entirely different position, however. This is an entirely new type of currency, which was designed to add an element of elasticity to the stock of common money in the country, and it has proved a great success. The notes are direct obligations of the United States Government, but they are issued by the various Federal Reserve banks, with the consent of the Reserve Board. To secure them, the issuing bank must deposit with the Federal Reserve Agent an amount in gold or eligible commercial paper equal to the face value of the notes to be issued; it must deposit a 5% redemption fund in Washington; and hold in its own vaults a reserve in gold equal to not less than 40% of the amount of the note issue. Under the regulations of the Reserve Board, however, gold which is sent to Washington as redemption fund, and gold deposited with the Reserve Agent as collateral, may both be counted as part of the required gold reserve—so that the total amount of gold behind an issue of Federal Reserve notes need never exceed 40%!

Assuming that a Reserve bank has unused gold reserves, the ability to issue Federal Reserve notes depends entirely upon

the volume of commercial paper. In a period of increasing business activity, the quantity of commercial paper in existence increases rapidly, because business enterprises are seeking to obtain additional accommodation from their banks. It is, therefore, just as easy to increase the quantity of Federal Reserve notes in circulation as it is to increase the volume of bank credit. In both cases, the total quantity issued can be increased regularly to meet the needs of business, and an increase in the demand for common money can be met as easily as an increased demand for credit.

Elasticity, however, involves contraction as well as expansion. When business becomes less active, commercial paper will be paid off, and no new loans will be requested. The result of this will be to cause a diminution in the volume of reserve credit, and in the circulation of Federal Reserve notes, in so far as both are dependent upon commercial paper for their creation. In the case of notes, the contraction of the circulation is aided by the fact that a Reserve bank which receives the notes of another Reserve bank may not pay them out over the counter, but must present them to the issuer and demand payment. It must be confessed, however, that the volume of Federal Reserve notes does not contract as readily as it expands, owing to the fact that at the present time gold may be used as collateral. Since the Reserve System as a whole has a gold reserve far in excess of the legal requirements, it has been possible to replace the maturing commercial paper by an equivalent amount of gold, and thus prevent the currency from contracting as much as it would otherwise have done.

The statement of the combined resources and liabilities of the twelve Reserve banks, which appears in Table XIV, enables us to obtain some idea of the relative amounts of credit and currency issued by the System as a whole, as well as of their relationship to the total amount of gold and lawful money held

as reserve against these liabilities. Such a statement is published by the Reserve Board each week, appearing on Friday morning in the financial journals, so that we have adequate statistical evidence by which to measure the elasticity of both credit and currency over a period of time.

TABLE XIV. COMBINED STATEMENT OF THE RESOURCES AND LIABILITIES OF THE TWELVE FEDERAL RESERVE BANKS COMBINED, FEBRUARY 19, 1930

Resources	
Gold with Federal Reserve agents	$1,663,332,000
Gold redemption fund with U. S. Treasury	55,109,000
Gold held exclusively against Fed. Res. notes	$1,718,441,000
Gold settlement fund with Fed. Res. Board	627,763,000
Gold and gold certificates held by banks	631,314,000
Total gold reserves	$2,977,518,000
Reserves other than gold	199,412,000
Total reserves	$3,176,930,000
Non-reserve cash	69,602,000
Bills discounted:	
Secured by U. S. Government obligations	204,930,000
Other bills discounted	172,013,000
Total bills discounted	$ 376,943,000
Bills bought in open market	281,057,000
U. S. Government securities:	
Bonds	69,770,000
Treasury notes	200,532,000
Certificates and bills	210,313,000
Total U. S. Government securities	$ 480,615,000
Other securities	14,280,000
Total bills and securities	$1,152,895,000
Due from foreign banks	722,000
Uncollected items	651,924,000
Bank premises	58,388,000
All other resources	13,826,000
TOTAL RESOURCES	$5,124,287,000

TABLE XIV. (*Continued*)

Liabilities	
Fed. Res. notes in actual circulation	$1,656,161,000
Deposits:	
Member banks reserve account	2,315,411,000
Government	48,987,000
Foreign bank	8,226,000
Other deposits	18,297,000
Total deposits	$2,390,921,000
Deferred availability items	611,818,000
Capital paid in	171,591,000
Surplus	276,936,000
All other liabilities	16,860,000
TOTAL LIABILITIES	$5,124,287,000
Ratio of total reserves to deposit and Fed. Res. note liabilities combined	78.5%

The fourth function of the Reserve banks in which they cooperate with one another and the Reserve Board, is the operation of a nation-wide *clearing and collection system.* All central banks do not undertake this task, although there is precedent in the case of such institutions as the Bank of France, but the Reserve System was compelled to assume the burden because of the absence of any other organization in the United States which was capable of doing so. All member banks are compelled to remit checks at par, i.e., they may not charge one another, or the Federal Reserve bank, for the service performed in making the necessary payment to meet a check. Non-member banks are also invited to join the clearing system, on the same condition, and, as a recompense, the Reserve bank bears all the costs connected with the clearing and collection machinery. Within a single Federal Reserve district the process is comparatively simple. Since all of the clearing banks have accounts with the Reserve bank, settlement can be made by debiting the account of the bank on which a check is drawn, and crediting the account of the bank which presented it. If a member bank in Troy, N. Y., receives a check drawn upon a bank in Albany, it will send it to the Reserve bank in New

York, and the latter will send it to the member bank in Albany on which it was drawn. If, when the check has reached Albany, it is in good order, the Reserve bank will make the necessary debit and credit entries, and the transaction will be settled.

Inter-district clearings are somewhat more complicated, but the same principle operates. Let us suppose that a national bank in Harrisburg, Pa., receives a check drawn upon a national bank in Atlanta. The Harrisburg bank will have an account with the Reserve bank in Philadelphia, and the Atlanta bank will have an account with the Reserve bank in that city—so that the Atlanta Reserve Bank could debit its member, and the Philadelphia Reserve Bank could credit the Harrisburg bank with the amount of the check. To complete the transaction, however, it is necessary that the Reserve Bank of Atlanta should transfer the funds to the Reserve Bank of Philadelphia, and this is done through the Gold Settlement Fund. To create this fund, each Federal Reserve bank was required to deposit with the Treasury in Washington an amount in gold of not less than $1,000,000, and to send such additional sums, from time to time, as would keep its balance at that figure. The Reserve Board administers the fund for the purpose of facilitating inter-district payments, and our imaginary transaction would be settled in this manner. The Atlanta Reserve Bank would notify the Reserve Board of the amount due to the Philadelphia Reserve Bank, and the necessary transfer of funds would be made by means of debit and credit entries in the Gold Settlement Fund accounts of the two Reserve banks.

By means of this clearing system, the whole country has, for the first time, been united into a single money market. Funds can be transmitted from Maine to California with as much ease as they are transferred from one bank to another through the operations of the New York Clearing House.

In view of its widespread organization, it was natural that the Reserve System should undertake to perform the *financial*

operations required by the Government of the United States. The banking system had not adequately met the needs of the government before 1913,[3] and it was some time after the creation of the Reserve banks before they were called upon to act as fiscal agents. The development was, however, hastened by the war, when the services of the whole System proved invaluable in regard to the flotation of Liberty Bonds. By the expansion of reserve credit, the banks made that flotation possible, and, by means of the clearing organization, they were able to make the necessary transfers of funds with ease and celerity. It will be recalled that the earlier Banks of the United States had performed similar functions, and it was natural that the Reserve banks should inherit their position after the long interval.

Finally the Reserve banks, or perhaps it would be better to say the Reserve System as a whole, is charged with the duty of *regulating the volume of bank credit.* This is a function of such vital significance, however, that it will require a whole chapter to itself, and we must therefore postpone it.

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[3] See Chapter 27.

CHAPTER 20

CENTRAL BANKING AND CREDIT CONTROL

In his evidence before the Royal Commission on Indian Currency and Finance, Governor Montagu Norman, of the Bank of England, stated in concise fashion the duties of a central bank. It should, he said, "have the sole right of note issue; it should be the channel—and the sole channel—for the output and intake of legal tender currency. It should be the holder of all government balances; the holder of all the reserves of the other banks and branches of banks in the country. It should be the agent, so to speak, through which the financial operations at home and abroad of the government should be performed. It would further be the duty of a central bank to effect, as far as it could, suitable contraction and suitable expansion (of credit), in addition to aiming generally at stability, and to maintain that stability within as well as without. When necessary, it would be the ultimate source from which emergency credit might be obtained in the form of rediscounting of approved bills, or advances on approved short securities, or government paper."

Our discussion in the previous chapter shows that the Federal Reserve System has already assumed most of the duties which are stated as being incumbent upon a central bank. It has linked together the innumerable commercial banking institutions of the United States, welding them into an organized system. The Federal Reserve banks are the holders of the greater part of the government balances, and of the reserves of the commercial banks, and, if Federal Reserve notes are not the only form of common money in the community, they are probably the most important single item in the total stock

of currency, as Table II (page 38) clearly indicates. Moreover, it is apparent that, in case of emergency, the Federal Reserve banks can meet in full, to an almost unlimited extent, the demands made upon them for both credit and common money.

The Control of Credit Policy.—We have still to consider one important duty, however, and it can without exaggeration be listed among the most important of central banking functions. Can the Federal Reserve System "effect suitable expansion and contraction of credit"—can it, to use a more direct statement, control the volume of bank credit within the United States? No categorical answer can be given to that question. Much discussion has taken place regarding the ability of central banks to assume such a controlling influence, and the Governor of the Bank of England (as becomes a brilliant central banker) is modest in the requirement which he lays down.

The control of the volume of credit is, however, of supreme importance to the economic and social welfare of the community. We have already seen that the commercial bank is a unique institution, in that it has the power to create credit, and we have observed the dire results produced by the innumerable credit policies of competing banks, which carried on their operations without any thought of the public well-being. The supply of credit, through its influence upon the general level of prices, exercises a decisive influence upon the state of business activity. No less important is the fact that the value of money is inversely proportional to the general price level—so that the value of our monetary standard is intimately connected with changes in the total volume of bank credit. Again, the supply of capital itself is affected to a marked degree by the credit policy of the banking system, and may be increased or diminished without any change in the saving propensities of the members of the community. Finally, the protection of the national gold reserve is intimately bound up with the general level of prices, and so

with the total quantity of bank credit. All of these problems, dependent upon changes in the existing volume of bank credit, are of deep economic significance to every member of the community, affecting the wage-earner as vitally as the millionaire who is leading a life of leisure. A theoretical discussion of the extent to which the control of credit can be made fully effective is, therefore, of less significance than a recognition of what central banks are already doing. Whatever may be the contentions set forth in the published reports of those institutions, central banks all over the world regard credit control as of cardinal importance, and it occupies a very prominent place in the policy which governs their operations. Indeed, it is doubtful whether any central banking policy could ignore a question so closely related to every section of the country, and to every type of economic activity, and even in those days of peace, before the European war disturbed the equanimity of central bankers, the idea of credit control was embedded in that classic description of central banking policy, Bagehot's *Lombard Street.*

The Federal Reserve System and the Money Market.—The money market is one of those nebulous organizations which are hard to define but easy to comprehend, for it is composed of all those who borrow money on the one hand, and of all those who lend money, on the other. It is an organization by means of which the *use of money* is bought and sold at a price (which is called the rate of interest), in exactly the same way that the New York Stock Exchange is an organization through which certain types of securities are bought and sold. While it is true that the Stock Exchange is housed in a palatial building, and that the money market has no geographic location at all, this difference is of little significance. Indeed, by a stretch of our imagination, we might imagine the New York Stock Exchange to be the heart of an organization which includes all of those innumerable purchasers and sellers of securities throughout the country, whose orders are executed

in New York. Although there are smaller stock exchanges in various parts of the country, the New York exchange may be said to be the nucleus of the whole market, since the dealings there are of paramount importance, and the same holds true of the money market itself. While we might talk of the money market in Chicago, or the money market in San Francisco, all of these (and many individual borrowers and lenders who have no organized money market in their immediate vicinity) are closely connected with the money market in New York, which is the nerve center of the whole credit organization. We might even carry the comparison further. As the New York Stock Exchange is divided into several smaller markets, each dealing in a small group of securities, such as "rails" or "utilities," so the money market might be subdivided into the "call loan market," "the government security market," the "acceptance market," and the "commercial paper market."

Any analogy must be used sparingly, however. We have said enough to indicate the nature of the money market in the United States, and we must not press the comparison too far, because there are substantial differences between the two markets in several respects. The money market may be regarded as one means of establishing contact between the commercial banking system and the rest of the country. While other lenders participate in the market, from time to time, the greater portion of the available supply of loanable funds is offered by the commercial banks and the financial institutions affiliated with them. On the other side of the market, we have the business enterprises of the country, which are primarily borrowers, although the need for funds will vary from one enterprise to another, and even in the case of a single enterprise the demands for bank credit will vary from time to time, in accordance with the fluctuations in business activity.

If we regard the country as a whole, it is clear that changes in the aggregate volume of bank credit will become apparent through the day-to-day operations of the money market. When

the commercial banks are extending credit freely, the supply of funds will increase, and the price paid for the temporary use of those funds will tend to fall; while a desire on the part of the banks to reduce their outstanding commitments will tend to reduce the supply of funds, and the rates of interest will tend to rise. The credit policies of the Federal Reserve System, in so far as they relate to the volume of bank credit, will therefore influence the condition of the money market, but it is clear that this influence may be exercised in either of two ways. The Reserve System might cause a change in the supply of funds offered in the market by inducing the commercial banks to increase or decrease their extensions of credit, or it might itself enter the market as a lender or borrower.

But before any credit policy can be carried into effect by the Federal Reserve System, some coordination is necessary. To this end the Reserve Act provides that the discount rates of the various Reserve banks shall be established subject to "review and determination by the Federal Reserve Board," so that this body may prevent two Reserve banks from adopting contrary policies in regard to the price charged for reserve accommodation. In case the Reserve System should decide to enter the money market directly, a similar coordination would be necessary to prevent the individual banks from working at cross purposes, and this has been effected by creating a committee of the governors of five of the Reserve banks which, in consultation with the Federal Reserve Board, makes recommendations as to policy. When a policy has been agreed upon, the operations in the money market are, in almost all cases, conducted by the Reserve Bank of New York on behalf of the whole System.

In practice, therefore, the operations of the several institutions composing the Federal Reserve System can be sufficiently coordinated to render possible the execution of a credit policy that has been agreed upon, and we are at liberty to discuss the methods by which such a credit policy may be carried into

effect. A central bank can influence the volume of credit in the community in any one of four ways, although in practice a combination of two or more of them may be used simultaneously. These four methods are as follows:

1. By changing the discount rate;
2. By open market operations;
3. By credit rationing; and
4. By publicity.

The Discount Rate.—Changes in the discount rate of a Federal Reserve bank probably attract a larger measure of popular attention than any other operation of the System, partly because of the fact that they receive more attention in the newspapers, and partly because they represent an aspect of central banking policy which is comprehensible to the average member of the community. The discount rate is the rate of interest which the Reserve bank charges upon the credit which it extends, and it is, therefore, apparent that when that rate rises the bank is less anxious to make loans—while a fall in the discount rate indicates a willingness to supply increased credit accommodation.

In the previous chapter, we saw that the member banks keep their reserves in the form of a deposit account with the Reserve bank of their district, and that they can increase that reserve, in case of need, by rediscounting commercial paper or borrowing from the Reserve bank on their own promissory note. During a period of expanding business activity, when the customers of a commercial bank are demanding larger quantities of credit, the member bank will find that its reserve ratio decreases steadily with each increase in the aggregate amount of its demand deposits. If it is to continue to meet the needs of business for new loans and discounts, it will be compelled to increase the size of its balance at the Reserve bank, and in practice, the only way in which this can be done is by an extension of credit on the part of the Reserve bank.

Moreover, as the activity of business continues to increase, the commercial bank will be called upon by its customers to supply increasing amounts of common money—and, once again, it will have to go to the Reserve bank to obtain Federal Reserve notes. But the member bank can only obtain additional supplies of currency by drawing upon its account, in exactly the same way as an individual who draws a check upon his bank account and cashes it, in order to obtain the common money which he needs. Since the reserve balance of the member bank is already fairly close to the legal minimum, it would tend to fall below that level when drawn upon in the effort to obtain Federal Reserve notes, so that the member bank will have to obtain more credit from the Reserve institution to make good the deficiency.

The member bank will have to pay for the credit accommodation which it receives at the current discount rate, and, so long as that rate is comparatively low, this constitutes no particular hardship. As the expansion of business activity proceeds, and the volume of bank credit increases, the Reserve bank finds it necessary to intervene in order to prevent an overexpansion of credit, which would be disastrous to business and would imperil the gold reserve of the banking system. The discount rate is raised, and immediately borrowing becomes less attractive to the commercial bank. The effect is, however, in large measure a psychological one, for any probable increase in the discount rates would not unduly impair the profits of the member bank. Even if it should have to pay 10% for every $100 which it borrowed from the Reserve bank, it could use this as the basis of loans amounting to $1,000 (in a Reserve city), which would leave it a handsome margin of profit at any reasonable rate of interest. It is true that the situation would be somewhat different if it withdrew the proceeds of its loan from the Reserve bank in the form of Federal Reserve notes, for, in that case, no pyramiding of credit would be possible. But even in times of considerable business activity, the demands

for common money are never more than a small fraction of the aggregate demands for bank credit.

While it would in theory, be possible to raise the discount rate to a point at which it became positively unprofitable for the member bank to borrow, this never happens in practice. Other factors are set in motion by which the desired contraction in the volume of credit is achieved. In the first place, there is the psychological effect upon the commercial banker, which flows from a recognition of the fact that the Federal Reserve bank considers a contraction of bank credit desirable; but even more important is the influence of a rising discount rate upon business activity. A study of the post-war operations of the Reserve System demonstrates conclusively that the rates of interest for short-term loans which prevail in the money market are immediately influenced by changes in the Reserve bank discount rates. A rise in the discount rate tends to cause an immediate rise in the price which business enterprises have to pay for the funds obtained in the money market. Although a slight increase in the rate of interest may be of small account to a manufacturer, to whom interest represents a small portion of the total cost of producing his wares, it will be of great importance to a merchant. It is the merchant who, in the majority of cases, purchases the goods produced by the manufacturer and distributes them to the retailer, or to the ultimate consumer. In order to carry the necessary stocks of goods, this group of middlemen, which occupies an important place in our economic organization, must borrow funds from the money market. The profits of their operations are derived entirely from the difference between the price at which goods are bought and the price at which they are sold, and since the cost of borrowing to carry inventory is an important element of expense, any increase in the rate of interest which must be paid for the funds borrowed will cause an appreciable diminution in their margin of profit.

This alone would tend to make the merchants decrease their stocks of goods by reducing their purchases, and an even more powerful psychological factor operates toward the same end. The rise in the discount rate, which was responsible for the increase in the cost of borrowed funds, betokens a desire on the part of the central bank to reduce the outstanding volume of credit. But the result of such a contraction will probably be a fall in prices, and in the face of such a possibility the merchant will wish to reduce his stock of goods to the lowest possible quantity. He will, therefore, tend to reduce his purchases, and attempt to increase his sales, reducing the amount of his loans as rapidly as the diminution in his stock of goods enables him to do so.

An increase in the discount rate will, therefore, tend to influence the volume of credit from both sides. It will decrease the willingness of the banks to extend credit, and it will cause the demand for credit to fall off as rapidly as the outstanding loans are paid off. On the other hand, if the discount rate should be lowered, the contrary processes would be set in motion, and there would, in normal times, be a tendency for the volume of bank credit to increase.

Open Market Operations.—In a given set of circumstances, an increase in the discount rate may not produce the desired result. The reserves of the commercial banks may be so far in excess of the minimum required by law, that they can continue to extend credit to their customers without being compelled to borrow from the Reserve banks. An increase in the discount rate would then be of no practical significance to the member banks, and, if they did not wish to cooperate with the Reserve bank, they might continue to increase the volume of credit, despite the fact that such a policy was considered inadvisable by the central banking institution. In such a case, the central bank would be compelled to enter the money market directly in order to make its policy effective. Or, to take another hypothetical case, the Reserve bank might feel that

some check should be placed upon the expansion of credit, and yet not wish to slow up the whole tempo of business activity by raising the discount rate. In this case also, it might decide to operate directly in the money market.

Some writers have contended that the central banking institution is essentially a bankers' bank, and that it should be allowed to transact business only with the commercial banks and the government. Such an idea was frequently heard at the time of the passage of the Federal Reserve Act, and it contains some merit in that the operations of a central bank are of such vital importance to the community that it should not be handicapped by direct relations with business enterprises, which might impair its efficiency. The possible evils of such a connection with business enterprises were demonstrated in 1927, when the institution which acted as central bank for the island of Formosa was in imminent danger of collapse, owing to its having become involved in the fortunes of a large commercial house. As it was, the incident precipitated a crisis in the Japanese money market, which imposed a severe strain on the Bank of Japan. Moreover, a central bank which maintains direct and continuous financial relations with commercial or industrial customers is, to that extent, competing with the commercial banks of the country, and the friction engendered by this competition may increase the difficulties encountered by the central bank in carrying its policies into effect.

On the other hand, a central bank which was permitted to deal with commercial banks only would be entirely at the mercy of those banks. So long as the commercial banks could carry on their operations without borrowing from the central bank, the latter would be powerless to exercise any influence upon the money market, and it would only be called into action to meet the crisis resulting from the overexpansion of credit by the commercial banks. Such an arrangement would be absolutely untenable, and, although the Federal Reserve Act forbade the Reserve banks to receive deposits from any source but the

commercial banks and the government of the United States, it gave them authority to buy and sell in the open market. Aside from the power to deal in gold, which is essential so long as the United States is on a gold standard, the Reserve banks are empowered to purchase bank acceptances, bills of exchange, and government bonds of certain specified classes, although, in practice, the open market operations of the System are confined almost entirely to dealings in bank acceptances and obligations of the United States Government.

As we have already said, open market operations may be undertaken either to prepare the way for a change in the discount rate, or to make a change in that rate effective. In either case the method is the same, and we can, therefore, confine ourselves to the second one. If for any reason a rise in the discount rate does not produce as rapid, or as great, a contraction in the volume of bank credit as is thought desirable by the Reserve System, it can proceed to sell bank acceptances or bonds on the market. Payment will be received in the form of checks drawn upon commercial banks, thus reducing the supply of funds in the money market and at the same time reducing the aggregate reserves of the commercial banking system, since these checks will be debited to the reserve accounts of the banks on which they were drawn. As a result of this process, there will be a tendency for the rates of interest in the money market to rise, on the one hand, while, on the other, the reduction in the reserves of the commercial banks will compel these institutions to borrow from the Reserve bank, which of course can only be done at the current discount rate. In carrying out its open market operations, the Reserve System has therefore compelled the member banks to borrow, thus acquiring a measure of control over their extension of credit, and it has also produced some contraction in the total supply of funds within the money market. In such a situation, the process of credit contraction will work itself out in a manner similar to that already discussed.

Open market operations may also be carried out in order to increase the volume of credit in the market, and here an even stronger case can be made out for them because, when business is depressed, it requires a stronger incentive than low interest rates to persuade business concerns to borrow in order to expand the scale of their operations. When the Reserve System purchases acceptances or bonds, additional amounts of credit are pumped into the market, the reserve balances of the commercial banks are increased, and a business expansion is encouraged. During the past decade, the Federal Reserve System has indulged in a good deal of open market operation in the attempt to counteract such temporary variations in the supply of funds as are caused by tax payments, refunding operations, and gold movement. In these attempts it has achieved a large measure of success.

Credit Rationing.—While the discount rate and open market operations are by far the most effective, as well as the most satisfactory, weapons by means of which the central bank can carry out its credit policy, there are two other methods which should be mentioned. Credit rationing, in its broadest sense, implies the fixing of a "line of credit" for each commercial bank, and the refusal of the central bank to grant accommodation in excess of this amount unless special penalties are imposed. In such a rigid form, the policy is fraught with many difficulties—so many in fact that it has never been practiced with much success. The central bank would have to assume the impossible task of deciding just what amount of credit would be allotted to each bank, and it would also have to prescribe the penalties to be imposed upon a bank which borrowed in excess of its "ration."

In a less rigid form, however, this policy has been practiced by the Reserve banks, which have frequently held conferences with individual member banks that appear to be borrowing too frequently, or in too large amounts. While these individual relationships are not of primary importance in the execution

of a general credit policy, they are of great value in developing better banking standards and in organizing the system more effectively. Along a somewhat different line, attempts have also been made to ration reserve credit on the basis of the use to which the funds are to be put. It has often been suggested that the Reserve System should meet all of the legitimate needs of commerce and industry, but that it should not advance funds for speculation. The economic soundness of such a policy would depend upon the definition of "speculation," but there is no doubt that some such rationing was attempted by the System in the early months of 1930, and at other times in its history. In the long run, however, such a policy would be exceedingly difficult to carry out because of the mobility of funds. A loan by a member bank to a manufacturer may be used for speculation by the recipient, and, in the case of credit advanced to a member bank itself, it is even more difficult to determine the use to which the resultant funds are ultimately put.

Publicity as an Element of Credit Control.—Publicity is a weapon upon which central banks are by no means in agreement. The Bank of England has preserved a sphinx-like silence for centuries, whereas the Reserve System has been very generous in the information which it has given to the public. On the whole, it may be suggested that publicity is of value because of the psychological reaction which it provokes. Credit contraction can be more easily achieved if the business world realizes that the central bank is aiming at contraction, since psychology is a powerful influence in causing a diminution of business activity. On the other hand, business men will be more optimistic if they know that central banking policy is directed toward credit expansion. It must, however, be emphasized that publicity must consist of true statements. Unless the warnings are later translated into action, the business world will soon learn to disregard them.

Perhaps the greatest value of publicity and frankness is in regard to the commercial banks. We have already seen that central banking policy is more easily carried into effect when there is close and continuous cooperation between the central bank and the commercial banking system. The whole banking system is vitally affected by matters relating to credit policy, and it is of vital importance that the fullest mutual confidence should exist between the two parts of the banking system, for, in the absence of cooperation, it is highly probable that friction will develop to accentuate the existing difficulties in regard to credit control.

Suggestions for Further Reading

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CHAPTER 21

THE AIMS OF CREDIT POLICY

We have seen that checks drawn against bank deposits constitute by far the largest part of the medium of exchange in daily use in the United States at the present time, and the same thing is true in varying degree of all other countries which have attained to a high level of economic development. Moreover, it was shown in an earlier chapter,[1] that changes in the total quantity of money produce changes in the general level of prices, through their influence upon the unspent margin of society. In actual practice, the most elastic element in the whole monetary system is bank credit, and, while in theory a change in the total quantity of money might be just as effectively brought about by an increase in the silver coinage or the amount of government paper money, in practice it is usually due to changes in the credit policy of the banking system.

In view of the effects of a changing price level upon the community at large, the variations in the aggregate volume of bank credit are of vital importance. Since it is apparent that the central bank can, and does, exercise a large measure of control over that volume of credit, it becomes necessary to inquire as to the aims toward which central banking policy is directed.

The Return to Gold.—During the decade following 1920, the nations of the world have, one by one, returned to a gold standard which resembles its namesake of pre-war days in that it has resulted in linking up each monetary system with metallic gold, and thereby establishing an indirect connection between

[1] Chapter 4.

the various monetary systems themselves. Admittedly, gold is less of an autocrat than he was before the war. Like many other monarchs, he has been compelled to accept a democratic constitution, and leave a great deal of power in the hands of his loyal subjects the central banks. The world has learned by sad experience that gold is not a talisman which will protect the currency against depreciation, and the tendency which existed before 1913 to attribute to the yellow metal a species of divine right has been entirely killed. We have learned that, as regards the effect of the total quantity of money upon the standard of value, a change in the volume of bank credit is quite as effective as a change in the quantity of gold, and that, in practice, the changes in the general level of prices since 1914 have been almost entirely due to variations in the volume of bank credit. We watched the value of gold fall to one-third of its former level as a result of credit inflation, and in 1921, the European nations saw the value of gold rising steadily as a result of the credit policy of the Federal Reserve System. After all, it seems that the value of gold is dependent upon the value of the monetary standard as determined by credit policy. An ounce of gold sells for some $20 because it can be coined into a little more than $20. Once we realize that the value of money determines the value of gold, credit policy becomes of paramount economic and social significance.

Nevertheless, *from the viewpoint of any single country* which has adopted the gold standard, it is apparent that there are two distinct influences at work which may produce a change in the total quantity of money. In the first place, an import or export of metallic gold, by varying the bank reserves, will tend to produce an expansion or contraction of bank credit; while, in the second place, even when the volume of gold remains fairly constant, a similar variation may arise owing to a change in the credit policy of the banking system. Although we may regard the credit policy of the banks as the more important factor, it must be admitted that gold still exercises

a large influence—and we must regret that, in this as in many other things, the leaders of the world had not the courage to use to the full the opportunities which presented themselves in 1919 for the construction of a better world. As Sir Josiah Stamp pointed out in a recent address, "In a perfect civilization the dependence of highly important social and international relations upon the fortuitous quantity and value of a single commodity would seem to be cruel and barbarous, but it is extremely unlikely that the general level of nations will be sufficiently advanced for the next hundred years to dispense entirely with a metallic standard." For the immediate future, gold will retain his position as a constitutional monarch, and we must take account of him in our discussion of the aims of credit policy.

In its tenth annual report, the Federal Reserve Board points out that, "the objective in Federal Reserve discount policy is the constant exercise of a steadying influence on credit conditions." This is sound banking, and the Reserve System has attained a large measure of success in its policy, but we must probe more deeply in order to decide upon the ultimate ends toward which credit policy should be directed. By and large, we can distinguish three possible lines of action, which may be stated as follows:

1. A credit policy which aims to stabilize the value of money in terms of real costs;
2. A policy which produces a gradually rising price level; and
3. A policy which aims to stabilize commodity prices.

These aims differ fundamentally from one another, and it will pay us to look at each of them rather carefully before we make our decision as to which we consider the more desirable.

Stabilization of Real Costs.—The real cost of production —the expenditure of human energy and natural resources required to produce a given quantity of goods—has been sub-

jected to two distinct sets of influences during the past century. On the one hand, the tremendous development of industrial technology, aided by the progress of invention and scientific research, has caused a continuous decrease in the real costs of producing almost all of the commodities which we daily consume. It has become platitudinous to point out that the poorest laborer of our own generation is able to enjoy things which were beyond the reach of many an ancient potentate, and although this, like most platitudes, is somewhat exaggerated, the underlying idea is too obvious to need supporting arguments. On the other hand, however, there has been a steady growth in population, which has intensified the demand for foods and raw materials. This is not the place to discuss the optimum of population, but we must remember that authorities have pointed out that there are limits to the amount of food which can be economically produced, and it is equally clear that mankind is using up the existing stores of coal and oil much more rapidly than nature is replacing them. To that extent, the world is living on its capital, and, without being unduly pessimistic, we are compelled to admit that there may come a time when the total supplies of these raw materials, and of food products, may not be equal to the demand for them.

Such a development, if it should arise, would manifest itself in a gradually rising real cost of production. Larger and larger quantities of human energy would be required to produce a given amount of commodities, and, if we should decide that monetary policy ought to be based upon a stabilization of real costs, then we should witness a gradually increasing price level. As the real cost of producing a commodity tended to increase, so its price in terms of money would rise, and as this phenomenon became more widespread, the general level of prices would gradually increase. As a result of this rising price level, the creditor classes as a whole, and the large body of persons receiving fixed incomes in the form of wages or salaries, would find the real value of their money income declining, and would

thus be forced to forego a portion of the real wealth which they had customarily consumed in the past. In the day (if it should ever come) when the world is shivering for lack of warmth and food, it would be well that the creditor should be prevented from saying with Shylock, "I'll have my bond, speak not against my bond!"

But let us escape from a vision too dismal to contemplate, and return to the comforting society of those who tell us that science will carry the world from strength to strength. Let us assume that the technological development of the last hundred years is only a feeble beginning, and that mankind will continue steadily to reduce the real costs of production, until they reach a level incredible to us of the present generation. If that dream becomes a reality, we should witness the converse process in a pecuniary society. As the real costs of producing an article declined, its price in terms of money would fall. Such a fall in the general level of prices would undoubtedly prevent the entrepreneurs from pocketing *all* of the increased profits arising from improving technology, but would it not be socially desirable that the creditor and fixed income groups in the community should also share in the fruits of man's golden age? If the general level of prices should fall, the money income of these groups would enable them to obtain a larger quantity of real wealth, the increase being proportioned to the increase in the total real wealth of the community. In such a state of affairs, as we found when discussing the influence of bank credit upon the formation of capital, a monetary policy based upon stabilization of real costs would not extract any forced savings from the community, but would leave each individual free to choose whether he would raise his standard of living or increase his savings.

A credit policy which aimed at stabilization in terms of real costs has, therefore, much to recommend it, no matter whether we are pessimistic or optimistic as to the economic future of the human race. But there are, in practice, two

objections which are rather difficult to overcome in our present mental condition. In the first place, the world of business has, through long experience, come to regard falling prices as inherently bad. In the past, a period of falling prices has meant decreased profit margins, unemployment, and diminished business activity; and, although it can be proved theoretically that these results need not necessarily flow from the stabilization of money in terms of real costs of production, the immediate psychological reaction of the business man is to condemn the proposal. Nobody can deny that psychology is of great importance in modern business, so that this is a very real difficulty, but the second objection is even harder to overcome. In the existing state of scientific development, there is no generally recognized method by which real costs can be accurately measured. Many different ideas have been propounded on the subject at different times, but none of them has gained very wide acceptance. We are, therefore, regretfully compelled to admit that a credit policy aiming at stabilization in terms of real costs is not immediately practical, although it has much to recommend it if means could be found to carry it into operation.

Inflationism.—In every country, and at almost every period, there have been groups who desired that the aim of monetary policy should be to produce a gradually rising price level. "The inflationists we have always with us," and with equal universality we find that the creditor classes of the community are willing to denounce emphatically any doctrine which savors of inflationism. In the United States we find the greenback movement and the free silver movement; in England we have the Birmingham School of a century ago; in almost all countries during the last two decades we have had enthusiasts for a rising price level. Such a doctrine can easily be condemned as a desire for "too much money," but it will repay further analysis, since one seldom finds a movement recurring

with such persistency unless it has something to recommend it.

The fundamental cause for all inflationist movements is to be found in the fact that a gradually rising price level promotes business activity. When prices are rising, the entrepreneur finds that his money profits are increasing, and, in his desire to take full advantage of such an opportunity, he expands his activities and gives employment to a larger number of people. On the other hand, as Attwood pointed out in 1817, "During the operation of a general depression of prices, the capitalists of the country find a greater interest in doing nothing than they can find in conducting any business that can be found. If a capitalist lays by a sum of money in his chest, it will be found to have increased in real value at the end of the year without any labor or risk on his part, but if he employs it in any kind of business, or in the purchase of any kind of goods, it will be found to have diminished in real value at the end of the year, notwithstanding any industry or discretion which he can possibly have used."[2]

Here we have the essence of the situation, and if proof were needed of the business depression which falling prices produce, we can refer to the statistics of unemployment in England, Germany, or the United States during the period of post-war stabilization. When prices are rising everything flourishes. "The laborers, reverting from one channel of employment obstructed by the war, were quickly taken up in a hundred other channels, which the state of the circulation had opened."[3] Because of this Attwood and his followers wanted the supply of money to be increased to a point at which there was no unemployment, thus stabilizing the currency in terms of wages. This underlying idea is rather similar to that of certain modern writers who desire that the supply of credit shall always be adequate to clear the market of goods. Both of these are comparatively harmless proposals which have much to recommend

[2] Quoted, R. G. Hawtrey, *Trade and Credit*, p. 66.
[3] *Ibid.*

them. Once the supply of money had been increased to eliminate unemployment, or to clear the market of goods, no further increase would be necessary if the economic organization continued to work smoothly. But it is *rising* prices which promote business activity, not high prices, and once the first step is taken it becomes increasingly difficult to refrain from repeating the process at some future time. It is this implicit continuance of the rising price level which constitutes inflation, and it is the continuity of the process which, for a time, accentuates business activity.

The apostles, and even more the disciples, of inflationism are always drawn from the debtor classes of the community, and from the wage-earners. It commands but little support among those classes in the community whose money income is comparatively fixed, for with rising prices the creditor classes, and the recipients of fixed money incomes, are forced to decrease their consumption of real wealth. It is apparent that this must be so, since the increased profits of the entrepreneur, and the increased earnings of the workers, will absorb a growing proportion of the real wealth produced. From the viewpoint of society as a whole, such a policy is clearly inequitable—and yet it may be well that everybody should be employed, even if there is continual grumbling at the increased cost of living, rather than that a portion of the community should be protected in the enjoyment of their living while the unemployed congregate in the streets. In the existing pecuniary order of society, no spur to business activity has been found which is quite as potent as rising prices. In war-time it has proved indispensable, and perhaps there is an element of wisdom in something which has so often demonstrated its efficiency. Of one thing at least we can be sure; despite all the arguments of "sound money advocates," we shall have inflationists as long as we have unemployed workers, for the man who is without work, and is thus deprived of income, will think of the immediate

benefits of inflation in creating jobs rather than of the ultimate crisis which it must cause in the long run.[4]

Moreover, we have already seen that, by means of a gradually rising price level, the supply of capital is augmented by the forced savings of the community, and it would need to be a wise man who would attempt to measure the relative benefits and disadvantages which the world now enjoys from the equipment produced by such false saving. Yet, even while we realize that inflationism contains a grain of very significant truth, and although we may appreciate the feelings of those who have advocated it, we recognize that as an aim of monetary policy, it is unconscionable. The immediate influence which is exercised by inflation is often exaggerated—and the ultimate results are ignored, even though the German economic chaos is of such recent occurrence.

Stabilization of Commodity Price Level.—There remains our third alternative, a credit policy which aims to stabilize the general level of commodity prices. Here we have two advantages, the ability to formulate a gauge by which the effectiveness of the policy can be tested, and the certainty of the results attained. The science of index numbers has, as we have already seen, reached a point at which it is possible to measure changes in the general level of prices with so great an accuracy that the probable error is less than one-eighth of 1%. The policy can, therefore, be guided by an index in which confidence exists (although as yet that confidence is by no means general throughout all groups in the community). Moreover, the stabilization of the general level of commodity prices is intelligible to the ordinary layman. It implies that $100 today will purchase a quantity of wealth equivalent to that which could be obtained for it ten years from now. For this reason the stabilization of commodity prices, the maintenance of the value of the monetary standard at a fixed level in terms of

[4] See Chapter 6.

goods, offers itself as the most practicable aim toward which credit policy can be directed. Without prejudice to the ultimate use of real costs as a guide, we must admit that the stabilization of commodity prices represents an aim toward which our efforts can be immediately directed.

The problem of stabilizing commodity prices is, however, complicated by the existence of the gold standard, and the legal requirement that central banks must hold gold reserves and redeem other forms of money in gold when they are requested to do so. In order to avoid this difficulty, some writers have suggested a "managed currency," that is, a monetary standard[5] which would take the form of inconvertible paper money. The value of such a standard would obviously be determined by the credit policy of the central bank, provided that institution effectively controlled the volume of bank credit, and was the sole issuer of paper currency. With a monetary system of this kind, the price of gold would fluctuate from time to time, in the same way that the price of any other commodity fluctuates. Gold would have no direct relationship to the monetary standard and, in so far as gold reserves were held by the central bank, the metal would be regarded merely as a commodity peculiarly suited for international payments. Such a monetary system has much to recommend it, but at the present time it is not a matter of practical politics. The gold standard has been reestablished, and we must predicate our discussion on that fact.

So long as there is a gold standard we must base our monetary policy upon the stabilization of the value of gold itself, and in an earlier chapter we discussed the suggestions in that regard of Professor Fisher and Professor Lehfeldt.[6] Neither of these plans appeared to be satisfactory at that time, and indeed the same result can be secured in a less complicated manner through the mechanism of central banking. If the

[5] See J. M. Keynes, *Monetary Reform.*
[6] See Chapter 7.

value of money determines the value of gold, credit policy presents itself as a method for stabilizing the value of the yellow metal.

If prices in one country rise more rapidly than those in another, when both countries are on the gold standard, there will be a tendency for gold to flow from the first country to the second. But if prices rise equally in both countries, no gold movement will be likely to occur. Now, as we have already seen, changes in the general level of prices are primarily due to changes in the credit policy of the banking system—and there are two lessons to be learned from the operations of that system, which are of value to us in our discussion of the feasibility of stabilizing commodity prices under a gold standard. In the first place, it is apparent that if reserves are centralized they can support a larger credit structure. By mobilizing the reserves of the United States in the Federal Reserve banks, it was possible to cut the reserve ratio in half, and at the same time to permit a vast increase in the quantity of bank credit without endangering the system. Indeed, the system was greatly strengthened, because, although the aggregate amount of the reserves was much smaller, the portion of that aggregate amount which could be used to aid an individual bank was infinitely larger. In the second place, we found that a great increase in the total volume of bank credit is possible if all of the banks expand their loans and discounts in the same ratio. A given amount of reserve will support a larger volume of credit, provided the reserve ratios of all the banks move in proportion to one another.

It is apparent, therefore, that credit policy must be international in its scope if the value of gold is to be regulated by it, and it would facilitate the procedure if some international pooling of gold reserves could be arranged. These factors gradually became apparent during the years following the war, and at the International Financial Conference held in Genoa in 1922 it was agreed that, if all of the central banks of the world

cooperated with one another in carrying out a credit policy upon which all were in accord, it would be possible to stabilize commodity prices throughout the civilized world. In the face of such a policy (which has not yet come to fruition) gold would be a monarch so closely regulated by constitution that all of his actions would be controlled by his ministers, the central banks. Gold coin would be just as clearly token money as the cheapest form of bank note, for the value of the monetary standard would depend directly upon the credit policy of central banks throughout the world.

Before discussing the development of the international cooperation of central banks, we may, however, glance briefly at the guides by which such a credit policy is to be directed. We may agree that monetary policy should aim at the stabilization of commodity prices, but the problem is not entirely solved when we have reached that decision.

Guides to Credit Policy.—Although monetary science and banking technique have advanced considerably during the last few decades, we must always remember that stabilization cannot be secured by any hard-and-fast rules. There is no precise formula which can be used in the certainty that its rigid application will prevent fluctuations in the general level of prices. "The central banks must exercise discretion; they must be ready to detect and forestall any monetary disturbance even before it has affected prices."[7] Before the war the gold reserve was considered of fundamental importance as a guide to central banking policy, and now that it has proved to be inadequate to meet the situation, central banks throughout the world are forced to seek new guides that will prove more satisfactory.

The problem was discussed at some length by the Federal Reserve Board in its Tenth Annual Report, and, although that document modestly disclaims any possibility of stabilizing prices, there is a great deal of information in it about the indi-

[7] R. G. Hawtrey, *Monetary Reconstruction*, p. 134.

cators by means of which such an ideal might be attained. In the first place, it is clear that an index of commodity prices, no matter how accurately it may be constructed, is inadequate to meet the needs of the situation. An index of prices only registers changes which have already taken place, and, as we saw in our discussion of the business cycle, the factors which ultimately produce a change in commodity prices have usually been at work for some considerable time before any change becomes apparent in the general price level. By that time, it is difficult to control the situation, since business activity has acquired substantial momentum, so that "credit administration must be cognizant of what is under way or in process in the movement of business before it is registered in the price index." The whole problem of efficient credit administration depends upon the timeliness of action, since the effects of identical operations will be totally different when they are undertaken at different periods. To give only one example, it has often been contended that, whereas the contraction of credit during the latter half of 1920 produced the depression of 1921, a similar restriction of credit in 1919 would have largely mitigated the effects of both the post-war boom and the ensuing crisis.

In practice, then, it is suggested that the volume of trade, production, and employment should be maintained in a state of equilibrium with the volume of consumption. The state of business activity must furnish the most important guide to credit policy; for, by studying these conditions, the central bank is able to detect in their embryonic stages those influences which would, if allowed to develop, produce changes in the general level of prices. Admittedly, the state of business activity is not easily measured. There exist many statistics which measure various phases of business, but these must be combined and tempered with judgment if they are to serve as satisfactory guides by which the central bank can direct its policy. In conclusion, we cannot do better than quote the opinion of the Reserve Board itself on this question: "No statistical mechan-

ism alone, however carefully contrived, can furnish an adequate guide to credit administration. . . . The credit situation at any particular time is weighted and charged with invisible factors. They are elusive and cannot be fitted into any mechanical formula, but the fact that they are refractory to the methods of the statistical laboratory makes them neither nonexistent nor unimportant. They are factors which must always patiently and skilfully be evaluated as best they may, and dealt with in any banking administration that is animated by a desire to secure to the community the results of an efficient credit system. In its ultimate basis credit administration is not a matter of mechanical rules, but is and must be a matter of judgment." [8]

Suggestions for Further Reading

Annual Reports of the Federal Reserve Board (especially the Tenth).

Bellerby, J. R. Monetary Stability. The Macmillan Co., 1925.

Dowrie, G. W. American Monetary and Banking Policies. Longmans, Green & Co., 1930, Ch. IX.

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[8] Federal Reserve Board, Tenth Annual Report, 1923.

CHAPTER 22

INTERNATIONAL COOPERATION OF CENTRAL BANKS

The monetary legacy of the European war can be described in one word—chaos.[1] The whole social organization, resting upon a pecuniary basis, is a delicate mechanism. It had been shattered by the convulsions of war, and it could not easily be repaired by men who were still in the grip of that hysteria which the war engendered. The world could not be reorganized on any sound economic basis if there was to be a perpetual cleavage between "Allied" and "Enemy" powers, nor was any progress possible so long as a large part of Europe was to be held in military subjection. These things, however, were hidden by mists which could not suddenly be dispelled by the signing of an armistice. It is much easier to lay down one's rifle than it is to change one's mind openly.

The Recognition of the Problem.—When the International Financial Conference met at Brussels in 1920, it was natural that the committee of experts should make recommendations that sound platitudinous in our ears, as we look back over the interval of more than a decade. But in 1920 those resolutions were not platitudes. They were statements of economic truth, which the world had temporarily forgotten, and history shows that they had to be reiterated, again and again, before they were accepted. "It is essential that the inflation of credit and currency should be stopped everywhere at the earliest possible moment," and to this end the governments of all countries must reduce their expenditure to the limits im-

[1] See Chapters 5 and 6.

posed by their annual income. The first step in monetary reconstruction had to be the balancing of the national budgets, and the curing of that hallucination, engendered by war, that a country could spend indefinitely, and be sure of raising the money either from taxation or loans. Almost as vital, from an economic viewpoint, were the resolutions regarding intercourse between nations: "Commerce should as soon as possible be freed from control, and impediments to international trade removed," while it is equally apparent that, "Attempts to limit fluctuations in exchange by imposing artificial control on exchange operations are futile and mischievous. . . . All governmental interference with trade, including exchange, tends to impede that improvement of the economic conditions of a country, by which alone a healthy and stable exchange can be secured." Sound fiscal policy, and freedom of economic intercourse, had to be secured before any progress could be made in monetary matters.

But the Brussels Conference went beyond these preliminary exhortations, although their efforts were rather timid, and their aims were by no means clear. The two recommendations which are of most concern to us here were, first, that the gold standard should be restored as soon as possible; and secondly, that central banks should be established in those countries where they did not already exist. Further than this the men of Brussels did not dare to go, and perhaps it is surprising that they ventured as far as they did when we remember the many handicaps under which they labored.

The vagueness of these resolutions left several problems for the world to face. In the first place, the return to the gold standard would not necessarily lead to any stability in the general level of prices throughout the world. Not only had the value of gold declined by about 60% during the brief period from 1914 to 1920, but the distribution of the world's gold stocks had undergone a serious change. Europe as a whole had not enough gold to support the existing credit structure if

the gold standard should be restored, and even in the United States the reserve ratio had fallen to a point dangerously near the legal minimum by the middle of 1920. A general return to the gold standard would, therefore, have produced a sharp fall in the price level, and, to have prevented such a decline, some international agreement would have been required under which several countries adopted a gold exchange standard, and permitted the concentration of the existing stocks of bullion in a few of the larger centers. Alternatively, the same result could have been achieved by the creation of an international clearing system, which concentrated a large proportion of the world's reserves of monetary gold at some central point. No matter how it was achieved, economy in the use of gold would have been necessary to maintain the price level of early 1920 under a gold standard, and that economy could only be secured through international cooperation.

When the level of prices, expressed in terms of gold, declined during the latter part of 1920 and the early part of 1921, a new problem arose. With prices at the new low level the gold reserves of some countries, and notably of the United States, were large enough to permit a substantial credit expansion and a consequent increase in prices. To meet this situation, a different policy would have been necessary. "It would seem that, under the gold standard, the only way to prevent a world surplus of gold from creating a general rise of prices would be either that one country should be willing to bear the whole of the surplus, or that there should be an agreement amongst the different countries, first, to hold their due proportions of the world's gold reserve and, second, to prevent their price levels from rising much above a given position."[2] For the time being it seemed that the United States was willing to hold the greater part of the world's stock of gold, without allowing it to cause any proportionate increase in the volume of credit, but such a situation could not be allowed to become

[2] J. R. Bellerby, *Monetary Stability*, p. 119.

permanent, and so, once again, it was clear that international cooperation was necessary.

The Genoa Financial Conference and After.—These broad problems had not been solved at Brussels, and it is doubtful whether any international group of experts could have agreed upon a solution, in the face of the conditions which prevailed in 1920. But the passing of time heals many wounds, and when the next conference met at Genoa in 1922, it was possible to pursue the solution somewhat further. Once again we find the same platitudes regarding fiscal policy, and the same injunctions to establish central banks and return to the gold standard—but, by this time, it was realized that, if full advantage was to be derived from the existence of a chain of central banks, and if the problems regarding the gold standard were to be satisfactorily met, it was necessary that close and continuous contact should be maintained between the leading central banks of the world.

This question of international cooperation looms large in the report on currency of the Financial Commission at Genoa. The third resolution points out that, "Measures of currency reform will be facilitated if the practice of continuous cooperation among central banks . . . in the several countries can be developed. Such cooperation of central banks, not necessarily confined to Europe, would provide opportunities of coordinating their policy without hampering the freedom of the several banks." Again, in the ninth resolution we find it suggested that the successful maintenance of a gold standard "would be materially promoted, not only by the proposed collaboration of central banks, but by an international convention to be adopted at a suitable time. The purpose of the convention would be to centralize and coordinate the demand for gold, and so to avoid those wide fluctuations in the purchasing power of gold which might otherwise result from the simultaneous and competitive efforts of a number of countries to secure

metallic reserves." Finally, in order to provide for the carrying into effect of these resolutions, the twelfth resolution authorizes the Bank of England to call a meeting of all central banks, "to consider the proposals adopted by the conference and to make recommendations to their respective governments for the adoption of an international monetary convention."

From the discussions at Genoa two important results emerge. In the first place, it is realized that the value of gold must be stabilized through the credit operations of the central banks, if it is to be stabilized at all; and, in the second place, it is pointed out that this aim can only be achieved if there is a close and continuous cooperation between all of the leading central banks of the world. So convinced were the men of Genoa that international cooperation was of fundamental importance, that they specifically stated that "no scheme for stabilizing the purchasing power of the monetary unit can be fully effective without coordination of policy between Europe and the United States."

The most obvious result of the Genoa Conference was the creation of central banks in numerous countries all over the world. The nations of South America, the newly created political units in Europe, and other countries in all parts of the world, were deeply infected with the desire to establish central banks. With the help of expert commissions from Europe and the United States, most of them succeeded in the attempt, and, on the whole, it is probable that this multiplication of central banking institutions has exercised a salutary effect upon banking systems and credit policies. But, on the other hand, the rapidly increasing number of these banks made it improbable that any useful results could be obtained from a general conference, and for this reason the Bank of England never called the conference suggested at Genoa.

On the surface, therefore, it seemed that the machinery of international banking cooperation had not been much improved, but, if we probe more deeply, we find that a very real and effec-

tive cooperation of the leading central banks was being developed. During the period from 1922 to 1927, there stand out clearly the names of three men whose joint efforts exercised a tremendous influence in carrying forward the economic reconstruction of the world. Benjamin Strong (Governor of the Federal Reserve Bank of New York), Montagu Norman (Governor of the Bank of England), and Hjalmar Schacht (Governor of the Reichsbank), constituted a triumvirate which might be said to have exercised a central banking "dictatorship." Frequent conferences and more frequent correspondence enabled these men to formulate joint policies, and they were able to carry them into effect through the operations of the central banks which they directed. Perhaps the most eloquent testimony to this cooperation is furnished by the gradual attainment of financial stability by one country after another, and the widespread return to the gold standard which took place during the six years following the Genoa Conference. "The progressive restoration of the gold standard in Europe, though an act of official policy in each country concerned, is being achieved in large measure by the cooperation of Central Banks. A striking example of such international cooperation was furnished by the scheme for the rehabilitation of Belgian finance, in which a group of Central Banks including, among others, the Bank of England, the Bank of France, the Reichsbank, the National Bank of Switzerland, the Federal Reserve Bank of New York, and the Bank of Japan all participated. Similarly in connection with the Polish stabilization scheme of October, 1927, the Bank of Poland arranged credits with fourteen Central Banks. Speaking generally, the various schemes of currency reform fostered by the League of Nations in various countries have also presupposed a measure of cooperation between Central Banks, especially in regard to the issue of such foreign loans as have been considered necessary for paving the way to a return to the gold standard."[3] Even in

[3] C. H. Kisch and W. A. Elkin, *Central Banks*, p. 148.

the case of England, it may be remembered that credits were arranged with the Federal Reserve Bank of New York and other financial institutions before the country returned to the gold standard.

Throughout this period the value of gold remained comparatively stable, because of the credit policies of the Federal Reserve System. The United States held approximately half the world's monetary stock of gold, and for that reason the value of gold depended primarily upon the value of the dollar in this country. But the aim of the Reserve System was stability. As Governor Strong stated in his evidence before the Royal Commission on Indian Currency and Finance, "If, under the conditions which now exist in the world, it seems appropriate or necessary—*not in a selfish sense but with regard to the interest of monetary restoration in the world*—that the United States should run its banking system as now organized with a reserve which is, say, 20–25% above what has formerly been regarded as . . . the apprehension point of bank reserves, it simply means that we have so many millions of gold in bank reserves in the United States . . . which we would prefer, as a matter of national policy and protection, to allow to remain idle as a surplus, rather than to permit it to earn money when the earning of that income would result in a disastrous inflation." The active participation of the United States was therefore essential, if international cooperation between central banks was to be effective, and when Mr. Strong died in 1928, the extent of this participation was measurably lessened. Even if such a misfortune had not fallen upon the world at that time, it is clear that the personal cooperation of a small group of central bankers could not be a permanent thing. The vital need for cooperation was increasingly realized as the years passed, and it was equally apparent that more permanent machinery would need to be created through which central banks could work together effectively.

The Young Plan.—The rehabilitation of Europe and the restoration of sound currency conditions throughout the world have been inextricably entangled in the web of reparations and inter-allied debts. For some ten years, these problems had vexed the world, not only on account of the financial burdens which they imposed on various countries, but also because of the political arrangements with which they were associated. In 1924, the Dawes Committee made an attempt to separate the economic aspects of the reparations question from its political complexities, and the committee which sat under the chairmanship of Owen D. Young in 1929 finally agreed upon a plan under which the whole question of debts and reparations was regarded as a financial problem that should be handled in the manner which was most satisfactory from an economic point of view. With the political aspects of the question we are not concerned, nor need we spend any time in analyzing the precise nature of the reparation payments—but we are vitally interested in the machinery through which these payments are to be handled. A vast international trust company, known as the Bank for International Settlements, has been created which, as trustee for the creditor nations, is to receive payments from Germany and remit the proceeds in appropriate proportions to these creditors. Such a financial institution would necessarily have to maintain close and continuous business relations with a large number of the leading central banks, and it was natural that the framers of the Young Plan should conceive of the Bank as an instrument through which the world might obtain the benefit of that international cooperation which had been proposed at Genoa.

Accordingly, we find that the Bank for International Settlements has, in addition to its work as trustee, a second function, and it is with this that we are primarily concerned. In the words of the anonymous author of the Young Plan, "The Bank is so designed as not to interfere with the functions performed by existing institutions, but it is to create for itself

supplementary functions in a special field of its own. To this end every care should be exercised in the organization and administration of the institution. In the natural course of development, it is to be expected that the Bank will in time become an organization, not simply, or even predominantly, concerned with the handling of reparations, but also with furnishing to the world of international commerce and finance important facilities hitherto lacking. *Especially it is to be hoped that it will become an increasingly close and valuable link in the cooperation of central banking institutions generally—a cooperation essential to the continuing stability of the world's credit structure."*[4]

The Bank for International Settlements.[5]—The Bank is situated at Basle, having been incorporated by a special act of the Swiss legislature; but the statutes under which its operations are carried on are the result of a series of international conferences, and the more important provisions of those statutes may only be changed by an amendment adopted by a two-thirds majority of the board of directors, approved by a majority of the general meeting, and sanctioned by a law supplementing the present charter. The authorized capital of the Bank is 500 million Swiss francs (approximately 100 million dollars), which is divided into 200,000 shares of equal gold nominal value, such nominal value being expressed on the face of the shares in dollars, and also in the currency of the country in which they are issued. Like Federal Reserve bank stock, these shares carry a cumulative dividend of 6%, but they differ from Reserve bank stock in that the shareholder may also receive an additional non-cumulative dividend of not more than 6%, if the profits are in excess of the amount necessary to pay the cumulative dividend and to provide the required appropriations to reserve account.

[4] The italics are the present author's.
[5] See Appendix for charter and statutes of the bank.

Although these shares are held by individual investors in the several countries in which they were issued, the shareholders have no voting rights. The control of the policies of the Bank is vested in the various central banks throughout the world and, while the seven countries mentioned below are to retain a controlling interest, voting rights in proportion to the number of shares subscribed in each country are to be exercised in general meeting by the central bank of that country. The constitution of the Bank for International Settlements is, however, peculiar in that these voting rights do not apply to the election of directors. The board of directors is created without any expression of opinion on the part of the shareholders, or of the central banks which exercise the voting rights for those shares. The governors of the central banks of *Belgium, France, Germany, Great Britain, Italy,* and *Japan* and *the United States* are ex officio directors of the Bank, but in the case of Japan and America private banking houses will fill this position. Each of the above ex officio directors is given power to appoint one director from his own country who should be representative of finance, industry, or commerce, and who holds office for a period of three years but may be reappointed.

The influence of the reparations question is clearly seen in this arrangement. The nations which are interested, either as debtors or creditors, in the financial liquidation of the war are represented by sixteen directors—since the Bank of France and the Reichsbank have also been authorized to appoint to the board during the next thirty-seven years one additional member of their own nationality. Since the Bank is not entirely concerned with reparations, however, it is necessary that the remaining central banks of the world should be represented on the board of directors. The above sixteen directors may, therefore, elect nine others from lists of nominees submitted by the governors of the central banks of countries not already mentioned, in which the shares of the Bank have been issued.

These directors hold office for three years but may be reelected. The board, therefore, consists of twenty-five directors. At all times, however, the control of the board will rest with the central banks of the countries specifically mentioned; and although this selection was made on the basis of the reparation settlement, it is apparent that it has resulted in giving to a small group of the leading central banks of the world a dominating voice in the policies of the international Bank.

As in the case of the Federal Reserve banks, the executive control of the Bank's operations is vested in a general manager who is appointed by the board. He in turn is responsible for the appointment of subordinate officers, and has charge of the workings of the whole organization.

Next in importance to the actual structure of the institution, is the source from which it receives the funds with which to carry on its operations. According to the statutes, we can distinguish seven sources, but since these will vary in importance as the Bank develops, we will not concern ourselves with their relative significance or attempt to measure the volume of funds derived from each source. In brief they are:

1. The capital paid in;
2. Deposits voluntarily made by central banks, which may be either time deposits or demand deposits;
3. Deposits on clearing account, i.e., deposits made by central banks for the purpose of establishing and maintaining a fund by which to settle payments among themselves; (*cf.* the Gold Settlement Fund in the United States, p. 307)
4. Deposits on annuity trust account, i.e., deposits which the Bank receives from Germany in its capacity as trustee for the other creditor nations;
5. Deposits originating in the exercise of the Bank's function in connection with the German annuities, and tending to facilitate that function—a very vague provision of the statutes which seems to provide for the opening of

accounts with investment bankers in connection with the mobilization of the reparations debt;

6. Special deposits made by the creditor powers (particularly France) as guarantee funds in connection with the mobilization of the reparations debt; and
7. Special deposits made by Germany, equal to one-half of the average balance of the annuity trust account, but not in excess of 100 million marks.

Of these various sources of funds, only the capital, the voluntary deposits made by central banks, and the deposits received on clearing account relate to the banking functions of the institution. While the funds derived from the last four sources tend to increase the volume of its business, they are primarily related to the reparations settlement, and do not concern us here. All of the deposits received are liabilities of the Bank for International Settlements, however, and, in accordance with banking practice, it is necessary for that institution to hold a reserve against them. In this matter the Bank is not bound by any regulation in the Statutes. It may use its own discretion, but the intention of its creators is clear from the fact that the Young Plan provided that, while the deposits on clearing account must be backed dollar for dollar by gold, as is the case with the Gold Settlement Fund in the United States, other deposits need only be supported by a reserve of 40% for demand deposits, and 25% for deposits on investment account (time deposits). These reserves, moreover, were to have consisted *either of gold or of prime bills of exchange or checks*—so that the actual amount of gold held in reserve may be varied infinitely at the discretion of the Bank itself.

The powers of the Bank for International Settlements resemble those of any modern central bank, excepting for the fact that it has no right of note issue. In addition to its power to buy and sell gold coin and bullion, the Bank may make advances to, or borrow from, existing central banks against approved security; it may discount, rediscount, purchase, and

sell prime bills of exchange of the same general kind as those in which the Federal Reserve banks may deal; it may buy and sell long-term bonds; and, finally, it may deal in foreign exchange. In none of these provisions is there anything remarkable, and its power to invest funds in German securities, which is the only unusual feature of the statutes, arises directly out of the plan for the settlement of reparations. To make sure that the Bank will not depart from the paths of sound central banking practice, and to prevent its becoming entangled with governmental or business finance, it may not open current accounts with any national government, nor may it lend to governments. It is also prohibited from issuing notes, accepting bills of exchange, or acquiring a predominant interest in any business concern, while, in addition, it may not own real estate with the exception of that necessary for its place of business.

It is apparent that an institution has been created with very wide powers, in order that it may be fully competent to handle any problems which might conceivably arise in the future. It is equally obvious, however, that some safeguards are necessary to allay the fears of the various central banks, which might otherwise feel that they had created a monster organization which could conflict with them in their own territory. The statutes therefore provide that "the operations of the Bank shall be in conformity with the monetary policy of the central banks of the countries concerned." The governor of each central bank is also given the right to veto any policy of the Bank which would involve operations in the country in which that central bank is situated, so that the Bank for International Settlements can only operate in a given money market when its policy meets with the approval of the central bank at the head of that market. In view of the fact that the Federal Reserve System of the United States is not directly and officially connected with the Bank, the interests of this country are represented unofficially by a representative on the board of directors,

who is competent to exercise all the rights and privileges enjoyed by the ex officio directors. Nevertheless, in the case of a policy which involves operations in the American money market, the Federal Reserve System has the opportunity to approve of the policy, or to veto it, in case it should be considered undesirable.

Functions of the Bank for International Settlements.—As yet the Bank for International Settlements is a very young institution. It has scarcely had time to put its house in order, and certainly it has had but little opportunity to demonstrate its potential capacity. For some time to come, we may reasonably expect that its prime concern will be with the handling of reparations payments, since bankers are inherently conservative, and it is improbable that they will be willing to depend upon the new Bank until it has demonstrated, to their satisfaction, that it is a sound and well-managed institution. Indeed, it is well that this should be the case; human institutions grow by a slow process of evolution. It has taken us some two hundred years to arrive at our present conception of the functions of central banks, and the history of those two centuries is marked by some success, and many failures. An international Bank, of the kind that has been set up, is a newcomer—and it will not immediately come to the maturity of its powers.

Moreover, it is necessary to remember that the Bank for International Settlements is *not* a central bank. It has no power to issue currency, nor does it control any money market. In a sense, it is a "bank without a country." For that reason, any policy which it may conceive must be the joint product of a group of central bankers, while the operations necessary to carry that policy into effect can only be performed with the cooperation of the existing central banks.

Remembering all these limitations, however, it is necessary to point out the extent to which the Bank for International Settlements is qualified to assist in the solution of the two

problems of central banking policy which we have already found to exist. Can the Bank do anything to promote the international cooperation of central banks? Can it assist in stabilizing the value of gold? Regarding central bank cooperation, it is clear that the meetings of the board of directors of the Bank, and also the general meetings, partake of the nature of conferences of central bankers. Several times a year, the governors of the leading central banks are brought together to discuss matters of policy, so that the development of a spirit of cooperation has been greatly encouraged. A question may arise as to the position of the United States, since we have already seen that the participation of the Federal Reserve System is vital if central bank cooperation is to be fully effective. While many American bankers are inclined to look favorably upon the development of the Bank for International Settlements, it is rather early to form an opinion as to the extent to which the American representatives on the board of directors may be said to voice the opinions of the Reserve System. Upon this factor hangs the usefulness of the new Bank as an aid to cooperation; the organization exists, and the service which it can render depends largely upon the extent of American participation.

The operations of the Bank for International Settlements in regard to the stabilization of the value of gold are also potential, rather than immediate. The development of an international clearing mechanism renders gold far more effective, and simplifies the business of making foreign payments, but it has little influence upon the value of gold. As we have already seen, the latter is determined by the credit policy of central banking institutions—and the credit policy of the new bank is merely the joint policy of the participating banks. If, at some future time, the central banks of the world should come to regard a deposit at the Bank for International Settlements as a portion of their reserves, and if they should depart from the present attitude regarding central bank borrowing sufficiently

to augment their reserves in time of need by credits obtained from the Bank for International Settlements—then the Bank would be able to assist greatly in the stabilization of the value of gold, since the possible economy in the monetary demand for gold would be infinite.

But these developments are highly improbable during the next few years. For the time being, we must regard the Bank as a step forward in the development of a mechanism, by means of which central banking cooperation can be made effective, and as a huge trust company handling international debt payments.

Suggestions for Further Reading

Agreements concluded at the Hague Conference, January, 1930, Cmd. 3484.

Bellerby, J. R. Monetary Stability. The Macmillan Co., 1925, Ch. VII.

Dowrie, G. W. American Monetary and Banking Policies. Longmans, Green & Co., 1930, Ch. XII.

Hawtrey, R. G. Monetary Reconstruction. Longmans, Green & Co., 1923, Ch. VI.

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The Young Plan. Cmd. 3343, 1929, (especially Annex I).

CHAPTER 23

SAVINGS INSTITUTIONS

Up to now, our discussion of banking has centered around the commercial bank. The power of that institution to create purchasing power marks it off from all of the other financial agencies, and gives rise to the many complex problems which have required our attention. In order to formulate a satisfactory credit policy for the commercial banking system as a whole, it was necessary to set up a central bank, and, as the various nations of the world have become increasingly interdependent, those central banks have been compelled to pay close and continuous attention to one another—so that, at the present time, we have a permanent organization through which central bank cooperation can be made effective.

Purpose of Savings Institutions.—In order to simplify our problem, we have been compelled to disregard all those institutions which were not directly involved in the commercial banking system, but, if we are to picture the financial organization of society as a whole, it becomes necessary to observe those institutions which perform functions somewhat different from those of the commercial bank. Of these institutions the most important group are those which deal in investment credit—for, although the credit policy of the commercial banking system exercises an important influence upon the formation of capital, a great deal of the stock of fixed capital which exists in the country at any given time, is due to the voluntary abstinence from consumption of individual savers, and to the reserves of corporate enterprises. By and large, we may divide the institutions which deal in investment credit into two dis-

tinct groups, the *investment bankers,* who may be termed the "wholesale dealers," concerning themselves with large financial transactions, and the *savings banks,* which attend to the small accumulations of the individual saver. Many other differences exist between the two, as will become apparent when we discuss the investment banks—but, for the time being, we must confine our attention to the savings institutions.

Whereas the primary purpose of the commercial bank is the making of loans, the aim of the savings bank is to collect deposits. It exists to encourage thrift among that class of persons whose pecuniary status is such that they have little or no acquaintance with the financial world or the commercial banking system. Out of their modest incomes, they might be persuaded to set aside each week, or each month, a mite which would be of no significance to the large business enterprises which are eager to acquire capital. But, when the mites of innumerable savers throughout the land are collected together, they compose a fund of capital which plays a highly important part in the economic organization of the country. As Professor Moulton has well said, "the function of savings institutions is to assist in the raising of capital for modern business enterprise—to bridge the gap between the individual and the borrowing enterprise."[1]

But, if the aggregate fund of capital in the hands of the savings institutions is important to business, it is even more important to the individual savers who own varying portions of it. It is the encouragement of thrift, *for the benefit of the individual,* which must be regarded as the outstanding service performed by the savings bank, and this applies equally to all of the various types of institution which are included under that heading. "The savings bank is for the saver; its funds are invested permanently, while the commercial bank opens its doors to business men and loans its funds for a short term

[1] H. G. Moulton, *Financial Organization of Society,* 2nd ed., p. 329.

only. . . . The one serves best by keeping, the other by lending. One *aims* at profit, while the other *never* makes (or should make) profit an end. . . . We must get the last idea clearly in mind or we get a misconception of the savings bank. However much the element of interest may figure in the management, and whether we pay depositors 4% or 3%, or no interest at all, the accumulation of interest is not to be compared in importance with *the accumulation of principal.*" [2]

Although savings are also received by institutions whose primary functions are somewhat different, the institutions of which the fundamental aim is to encourage thrift may be divided into many different groups. The number of these groups will naturally depend upon the standard by which we make our classification. If we made governmental ownership and operation the criterion, we should have public and private savings banks; on the basis of the geographic scope of operations we should have unit banks and chain banks—but neither of these criteria is as useful as the third, the structure of the savings institution. Making our classification on this basis, we have four types of institution, viz.:

1. Mutual savings banks;
2. Stock savings banks;
3. Postal savings banks; and
4. Cooperative credit organizations.

Mutual Savings Banks.—Mutual savings banks appear to have been the earliest form of savings institution to appear in the United States, and, even at the present time, they are found chiefly in the eastern states and particularly in New England. These areas have been settled for a longer period of time than is the case with other parts of the country; the population tends to be frugal and very conservative in its habits while, in addition, there are a number of well-to-do individuals who feel a certain civic responsibility and are willing to assume obligations in the interest of the community in which they live. All of

[2] Adapted from W. H. Kniffin, *The Savings Bank and Its Practical Work*, pp. 54-75.

these conditions, and particularly the last one, are necessary to the existence of mutual savings banks, since these may well be regarded as philanthropic institutions operated in the interest of the community at large. The profit motive is entirely lacking. Those who are responsible for the conduct of the bank's operations have no share in the profit resulting from those operations, and, in fact, usually have no financial interest whatever in the institution.

A mutual savings bank is nothing more than a cooperative organization to promote thrift. It is created and managed by a board of trustees who hold office perpetually unless removed by their colleagues, and who assume the duties of managing the bank in the interests of the depositors. All of the funds of the institution are provided by the depositors, since there is no capital stock, and the profits received from the investment of these funds are distributed proportionally among these depositors, after the necessary deductions have been made to meet expenses and to build up a reserve, known as a "guarantee fund," out of which any future losses can be met. The depositors do not, therefore, receive a stipulated rate of interest on their savings, but a variable amount which will be determined by the profits resulting from the year's operations.

The funds of the mutual savings banks are invested in various ways, but the discretion of the trustees is severely restricted by legislation designed to protect the depositors from loss. In 1928, out of the total resources of mutual savings banks in the United States amounting to approximately $10 billions, nearly $4 billions were invested in bonds; and, of this amount, rather more than one-half consisted of bonds issued by the state or national governments or by public utility enterprises. Approximately $5½ billions was represented by long-term loans made to individuals and corporations, of which more than $2 billions were real estate loans. The remainder of the resources, in excess of the investment in buildings and real

estate, took the form of cash, or accounts with commercial banks.

It is by means of these last two items of resources that the savings banks are enabled to meet the demands of depositors who desire to withdraw their funds. Although these institutions may legally insist that the depositor give several days' notice of his intention to withdraw any or all of the funds standing to his credit at the bank, competition has, of late years, led to the practice of allowing depositors to withdraw their funds on demand—and this holds true in the case of almost all savings institutions. A prominent savings bank president has recently pointed out that, "in the final analysis it is the ability to pay depositors on demand that constitutes good banking and inspires confidence. Your funds may be invested in securities of the highest order, your loans made with the greatest of care, but if, whenever there is a depression, depositors are required to give notice of withdrawal, their confidence is shaken and they will eventually cease doing business with savings banks and deposit their moneys with institutions which will pay without notice."[3]

In order to meet such demands from depositors, the savings bank must be able to obtain the requisite amounts of common money. To some extent, it provides for such a demand by holding a cash reserve, but this is usually very small, amounting in the aggregate to only ⅓ of 1% of deposit liabilities in 1928. Reliance is placed chiefly upon accounts with commercial banks, and, in case of need, the commercial banks are called upon to supply the necessary amounts of common money with which the savings bank may meet the demands of its depositors.

Stock Savings Banks.—While the stock savings banks have the same fundamental purpose as the institutions we have just discussed, there is a vast difference in the nature of the two institutions. The stock savings bank is a corporation,

[3] Quoted, Moulton, *op. cit.*, p. 323.

organized for profit, so that there are two distinct classes of liabilities. On the one hand, there is the liability to stockholders on account of the capital which they have invested, while, on the other, there is the liability to depositors who have left funds with the bank. Since, in the event of losses or of an ultimate liquidation, the losses are borne in full by the stockholders, and will only fall upon the depositors when the capital fund proves inadequate to meet them, it is apparent that, in the case of a new institution, the stock savings bank offers the depositor a greater margin of safety than does the mutual savings bank. It is largely owing to this fact that the stock savings bank tends to predominate throughout those areas of the country which have been settled during the last century. Naturally the stockholder expects to receive a return upon his investment, so that in this case the depositor receives a fixed rate of interest on his savings, and the residual profits will go to the stockholder as dividends.

The policies of a stock savings bank are controlled by a board of directors, elected by the stockholders, and once again we find that governmental regulation plays a large part in determining the manner in which the funds may be invested. Specified *minimum* reserves must be maintained—whereas in the case of the mutual institution *maximum* reserve provisions are more common—and the types of loans and investments, in which the bank may plan its funds, are carefully prescribed. Generally speaking, in the case of the stock savings banks, loans are of relatively more importance in comparison to investments. In 1928, out of aggregate resources approximating $1¾ billions, the stock savings banks had made loans amounting to over 1 billion, and of these more than two-thirds were real estate loans. The investments represented a total of less than half a billion dollars, of which only a third were in the form of bonds issued by governments or public utilities. On the whole, it may be suggested that the investment policy of the stock savings banks tends to be somewhat less conservative than that of the

mutual banks, partly owing to the fact that they are situated in regions which are not as well supplied with capital as are the eastern states, and partly because the profit motive tends to make them seek a somewhat larger gross income, in order to meet the obligations of interest payments and have a sum sufficient to provide for a reasonable dividend on their stock.

The Postal Savings System.—In almost all of the economically developed countries of the world, a postal savings bank has been established. The government commonly accepts savings deposits at post offices throughout the country, undertaking to pay a specified rate of interest thereon, and to return the funds to the depositor after he has given the necessary notice of withdrawal. Although a postal savings system was not created in the United States until 1910, there are two reasons why such an organization in this country is able to perform a valuable social service by encouraging thrift among members of the community who would not come within the orbit of the other savings institutions.

First, there are a large number of people in the country—particularly among the immigrant population—who have little or no confidence in banking institutions. While in the countries from whence they came, and during their sojourn in the United States, they have had no connection with banks of any kind. If they save at all, such people will usually hoard money, hiding it somewhere about the house, in order to be sure that it will be safe at all times. They have no confidence in a bank and would not be willing to deposit their money with it, but they may be persuaded to leave their savings in the hands of the government, and rest assured that the financial soundness of that authority will protect them from any loss. To people of this type, the postal savings system acts as a very real encouragement, and there is little doubt that it has received a substantial volume of savings which would never have passed into the hands of any of the existing institutions.

In the second place, as Professor Kemmerer pointed out at the time of the creation of the system, the country is not nearly as well provided with banks which receive savings accounts as it is with post offices. In 1910, "there were in the United States 270 square miles of territory to each bank carrying savings accounts and 50 square miles to each post office; there was a population of 8,370 to each such bank, and of 1,542 to each post office; and there were 5.4 post offices to each bank carrying savings accounts." Moreover, the savings institutions tended to cluster in the thickly populated areas of the country, whereas post offices must exist within a reasonable distance of every inhabitant, so that, throughout large sections of the Middle and Far West, the contrast would be even greater than the above figures suggest. To some extent, the situation has changed since 1911. There are today many more financial institutions which receive savings accounts than there were before the war, but it still remains true that the post office is within reach of many individuals who are far removed from a savings institution.

The postal savings system is under the control of a board of trustees composed of the Postmaster General, the Secretary of the Treasury, and the Attorney-General. Certain post offices in various parts of the country are designated as depositaries, and any person over ten years of age may deposit funds and receive a certificate of deposit which draws interest at 2% per annum. The smallest deposit received is $1, but to provide for lesser sums a postal savings card is issued to which ten-cent stamps may be affixed until the amount equals $1. Not more than $100 may be deposited in any one month, and the maximum deposit which any one person may hold is $2,500, although, in excess of this amount, the saver may purchase United States postal savings bonds paying 2¼% interest and maturing at the end of twenty years.

For the most part, the funds received by the postal savings banks are deposited in commercial or savings banks which

have satisfied certain conditions and which undertake to pay interest on such deposits at the rate of 2½% per annum. Five per cent of the postal savings deposits are, however, held in lawful money at Washington as a reserve, and, in certain cases, a portion of the funds may be invested in United States Government bonds. Although the banks of the country were bitterly opposed to the creation of the postal savings system, its history up to the present time tends to show that it has performed a valuable social function and that it has supplemented the activities of the other savings institutions rather than competed with them.

Cooperative Credit Organizations.—Beginning in Massachusetts, in 1909, credit unions have spread rapidly throughout the United States, so that at the present time there are credit union laws in thirty-two of the states. As yet, however, they have not developed to the same extent in the United States as in foreign countries, where they are of great economic importance. Not only has the credit union aided greatly in the economic development of these countries; it has also exercised an important social influence upon a large portion of the population. "It has regenerated and accelerated agriculture, commerce, and industry. It has stamped out usury and raised millions of human souls from the depths of despair to lives of hopefulness and service. It has supplanted shiftlessness by industry; improvidence by thrift; intemperance by sobriety; selfishness by neighborliness; individual action by concerted action—in fact, has proved to be one of the most potent moral, educational, and social forces in the history of civilization and in the enrichment of the life of the common people." [4]

It will be appreciated, from this eulogy, that the credit union does more than promote thrift, although that is one of its primary aims. In addition, it supplies credit to its members

[4] A. H. Ham and L. G. Robinson, *A Credit Union Primer*, p. 1.

on the strength of their character, and, through the cooperative organization, which thus exists for the purposes of saving and lending, it is able to assist in the carrying through of large numbers of enterprises which are beneficial to the community as a whole, as well as to the individual members of the association. The Raiffeisen Banks of Germany, for instance, are not only financial institutions: they also occupy a position in the community which can best be compared to that of an active "community center" in a rural town or village in the United States.

An exception to the previous generalization regarding the United States must be made in the case of the building and loan association, which is really a species of credit union specializing in the financing of home-building for its members. Of late years, many variant types of organization have developed, but, broadly speaking, the building and loan association is a club to which all of the members contribute a certain sum each month. The size of the contribution made by each member will usually depend upon the number of shares which he holds. The contributions may also be in the nature of a gradual liquidation of a loan, or they may result in the accumulation of capital which is later withdrawn when the shares mature, but, in either case, the member is required to save a certain amount each month. The funds of the association are usually loaned to those members who desire to borrow, against the security of a first mortgage upon the real estate on which they intend to build, and also on the house which they construct. Some associations also lend on second mortgages, while in some instances loans are also made on stock exchange collateral, and for other purposes.

Like the credit unions in European countries, the building and loan association is, therefore, more than an institution designed to promote thrift. It is of great importance in the financing of urban real estate, and it has exercised a great social influence in making possible the ownership of a house to

many persons who might not otherwise have enjoyed that benefit. From the viewpoint of the accumulation of savings, however, the building and loan association is of considerable significance in the United States today. In 1928, there were 12,804 such associations in the country, with a total membership of over 11,000,000 persons, while the aggregate assets were in excess of 7 billions of dollars.

TABLE XV. THE RELATIVE IMPORTANCE OF VARIOUS TYPES OF SAVINGS INSTITUTIONS IN THE UNITED STATES ON JUNE 30, 1928[5]

Type of Institution	Aggregate Amount in Millions of Dollars
Stock savings banks—total deposits	1,345
Mutual savings banks—total deposits	8,672
Postal savings banks—total deposits	156
Building & loan association—total assets	7,178
National banks—time deposits	8,296
State banks—time deposits	7,228
Trust companies—time deposits	3,956

Commercial Banks as Savings Institutions.—The figures presented in Table XV show that, in point of aggregate volume of savings, the mutual savings bank and the building and loan association are the most important of the institutions which we have already discussed. But the table also shows another fact of considerable significance—that the commercial banking institutions of the country hold an aggregate amount of savings which is approximately equal to that held by all the specialized institutions existing for the specific purpose of promoting thrift. Even this statement does not give an adequate picture of the situation, for, as the figures in Table XVI show, the time deposits of the commercial banks have tended to increase much more rapidly than the deposits held by even the most important of the specialized savings institutions.

[5] Report of the Comptroller of the Currency for 1928.

TABLE XVI. COMPARATIVE GROWTH OF SAVINGS DEPOSITS AND TIME DEPOSITS [6]

(in millions of dollars)

Date (June 30 of each year)	Deposits of All Mutual Savings Banks	Time Deposits of National Banks	Time Deposits of All Reporting Member Banks of F/R System
1922.....	5,780	4,112	3,380
1923.....	6,289	4,755	4,000
1924.....	6,693	5,260	4,418
1925.....	7,147	5,925	5,172
1926.....	7,578	6,314	5,650
1927.....	8,077	7,316	6,212
1928.....	8,672	8,296	6,930
Increase over 1922....	50%	102%	108%

The majority of the state banks and trust companies have accepted savings deposits since the latter part of the nineteenth century, but in the case of the national banks this business is of more recent date. Prior to 1903 very few national banks received such deposits, and although in that year the Comptroller of the Currency stated it as his opinion that nothing in the National Banking Act would prohibit them from so doing, the banks were very slow to take advantage of this opportunity. In 1913, however, the Federal Reserve Act definitely recognized the right of the national banks to accept savings accounts, and since it provided that a smaller reserve might be held against time deposits than was required in the case of demand deposits, it offered substantial encouragement to member banks to extend this section of their business. Since the war, the growth in time deposits has been even more rapid, and almost all of the member banks of the Reserve System may now be said to operate savings departments.

[6] Adapted from the *Chase Economic Bulletin*, June 25, 1928.

This development has, to a certain extent, weakened the contrast between commercial bank accounts and savings bank accounts, for while it is true that a substantial portion of these time deposits (particularly in the case of the smaller country banks) represent genuine savings, "the greater part of the time deposits in the larger cities represent the temporarily idle funds of rich investors. . . . Such time deposits are very different in character from the thrift accounts and savings accounts of working men and others who gradually accumulate savings out of income."[7] It is contended that the growth in the time deposits of Reserve city and Central Reserve city banks is largely a result of the credit expansion by commercial banks—but, after all, the difference is one of degree rather than of kind. We have already seen the close interrelationship between bank credit and capital, and it is probable that the growth of small thrift accounts is indirectly due, in part at least, to the increase in the volume of bank credit, since a large portion of that credit ultimately comes into the hands of the wage-earners. The temporarily idle funds of capitalists, or of large enterprises, are just as much "savings" as the smaller balance of the working man or the salaried official, since in both cases the amounts constitute a fund of purchasing power which will not immediately be used for purposes of consumption.

Of much greater significance is the fact that the commercial bank is coming to administer the larger portion of the savings of the community. In any case, as we have already seen, the specialized savings institution is largely dependent upon the commercial banking system for the cash with which to meet the demands of its depositors, and it is therefore natural that the commercial bank should itself set out to collect the savings of the small depositor. These time deposits give the banks control over a certain portion of that fund of investment credit which has been voluntarily accumulated, and, since the commercial bank already supplies some investment credit to

[7] B. M. Anderson, in *Chase Economic Bulletin*, June 25, 1928.

industry and business, there is a manifest advantage to the bank, and to the economic organization as a whole, in this coalition of functions.

Insurance Companies as Savings Institutions.—Finally, we must include among the most important savings institutions the life insurance companies. In the case of straight life insurance policies, the benefit of the accumulated savings accrues to the heirs of the saver, but in the case of endowment policies (which appear to be increasing in popularity) the benefit of the savings accrue to the policyholder, who in either case has, year by year, set aside the necessary premiums. Some of the insured persons, it is true, die before their savings have been large enough to equal the amount received by their heirs—but, taking the country as a whole, this is obviously not the case, or else the insurance companies would long ago have been forced into bankruptcy. On the average, the policyholders live long enough to allow their premiums, together with the earnings of the fund of capital formed by those premiums, to equal and even exceed the sums which the insurance company undertakes to pay when the policy becomes due.

It is obvious that in a country like the United States, where life insurance and endowment insurance are becoming increasingly common, immense sums must be collected by the companies every year. As the business grows in volume, the funds of the life insurance companies increase, and today the annual receipts of practically every life insurance company are in excess of the disbursements. The funds which the companies accumulate in this way are invested largely in real estate mortgages and in state and municipal bonds, together with the obligations of public utility and other business enterprises. Of recent years, and to a greater extent in Canada than in the United States, life insurance companies have tended to invest a substantial portion of their assets in selected common stocks. While the practice has been frowned upon by the more con-

servative insurance men, it has a great deal to recommend it, since well selected stocks are safer than many kinds of bonds, and in addition the insurance company—on behalf of its stockholders and policyholders—is enabled to participate in the increasing wealth of the country which results from technological development and economic expansion. By and large, the investment in stocks of a portion of the funds of life insurance companies appears very desirable, but in many states the legal regulations prevent these companies from adopting such a policy.

Many other institutions throughout the community participate in the twin functions of encouraging thrift and mobilizing the small savings of innumerable individuals, so that these savings may be more effectively placed at the disposal of business. We have discussed only the more important groups of savings banks, but in general the other types which exist operate on principles which are very similar to one or other of the institutions already discussed.

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CHAPTER 24

INVESTMENT BANKING INSTITUTIONS

Investment credit is today demanded primarily for three purposes: first, to meet the needs of business enterprises for fixed and working capital; second, to meet the needs of national, state, and local governments which desire to undertake projects requiring an expenditure in excess of their current revenue; and third, for the purchase and improvement of real estate. In each of these cases the borrower will generally need large sums of money at a particular time, whereas the savings of the community tend to be widely distributed among numerous individuals, who each control an amount of funds greatly inferior to that needed by any but the smallest borrower. An intermediary is therefore necessary, and this service is performed by the investment banks, which purchase investment credit instruments from the borrower in large blocks, and sell them in varying amounts to other financial institutions, or to the individual investor.

Evolution of Investment Banks.—The institutions which we now know as investment banks are, however, a product of the Industrial Revolution, and may be said to have developed step by step with the gradual extension of corporate activity. During that large part of the history of civilized society which preceded the eighteenth century, investment credit instruments were comparatively rare. To some extent, a borrower might have been able to obtain a long-term loan against the security of a mortgage, or even by the use of bills of exchange, but in such a case the lender was usually a banker of the type of Jacob Fugger, or of the London goldsmiths during the period of the

Stuarts. Such men lent large sums to kings and princes, as well as to producers and merchants, but these loans were made out of their own capital, or out of the funds which had been left on deposit with them by other members of the community.

During the nineteenth century, investment credit instruments—and particularly bonds—came to be used to an increasing extent in the United States. States and municipalities issued bonds for the purpose of financing various public works; the federal government issued bonds to meet the expenses of the Civil War; while a large part of the funds necessary for the construction of that network of canals and railroads, which came into existence during the century, was obtained from the sale of bonds. Generally speaking, no very elaborate machinery was required for the marketing of these bonds. A municipality would sell the whole of an issue to a local banker who, in his turn, would dispose of almost all the bonds to his immediate customers, selling the remainder to other financial institutions with which he was in touch. The funds needed to construct canals or railroads were sometimes obtained in the same manner, although a more frequent practice was to sell the securities directly to individual investors along the route which the transportation system followed.

As the economic organization of the country developed, and investment securities increased in volume and variety, these methods proved increasingly unsatisfactory. We have already seen that, in order to dispose of the bonds issued to finance the Civil War, the federal government required each of the newly created national banks to purchase a large block of them. Such a method of selling was not available to other borrowers, and indeed it did not prove as satisfactory to the Government of the United States as had been expected. The two outstanding defects of the existing arrangement lay, first, in the fact that the borrower could not always get a satisfactory price from the bank which purchased the securities, while in the second place, the bank (which only handled such business intermittently)

often found that the volume of securities offered to it was too large to sell to its immediate customers, and yet not large enough to warrant the creation of a specialized sales organization. Clearly, there existed an opportunity for the development of a specialized financial institution, and such an institution gradually emerged. The borrowers came, in time, to advertise the sale of an issue of securities, so that several financial institutions in various parts of the country could send representatives, who would compete with one another for the issue. This raised the price received by the issuing municipality to a more satisfactory level. On the other hand, the bankers who regularly sought this type of business would find it advantageous to develop a specialized selling organization for the disposal of the securities which they purchased. To such bankers, the handling of investment securities would be a continuous process, and it was, therefore, natural that they should develop a specialized technique, which rendered them better able to handle the investment business than were the numerous banking institutions which were but seldom called upon to deal in investment credit instruments.

During the last half-century, therefore, we find investment banks assuming the form in which they now exist, specializing almost entirely in the field of high-grade investment securities. Some such banks handle nothing but bonds even today, but these are decreasing in number and a majority now handle both the preferred and common stocks of corporations which they consider to be sound and well-managed. The legal form usually assumed by the investment bank is that of a partnership, and several of the largest houses are still unincorporated; but during the last few years there has been an increase in the number of corporations doing an investment banking business—frequently in close affiliation with a large commercial bank. As an illustration of this development, we have the National City Company, created by the National City Bank of New York,

which is today one of the largest investment banking houses in the country.

During the last century, the corporation has come to be the dominant form of business enterprise, and, as a result, the volume of investment securities has increased by leaps and bounds. Almost all business enterprises now depend upon the sale of such securities for at least a portion of their capital, and in the majority of cases it would be both expensive and difficult for a business enterprise to market its own securities. The investment bank is, therefore, a usual intermediary in the raising of capital for business, but there are some enterprises which have succeeded admirably in the attempt to sell their securities directly to the public. This has been particularly true in the case of public utilities, among which the Bell Telephone Company is typical as an institution which has succeeded in selling its securities directly to its employees and subscribers. Another instance is furnished by the Philadelphia Rapid Transit Company, which for several years has been able to meet its capital needs by the sale of common and preferred stock directly to employees and car-riders. Such cases are, however, comparatively rare. For most business enterprises it is much cheaper and more convenient to resort to an investment bank rather than to attempt to approach the public directly.

The Functions of Investment Banking Institutions.— We have already seen that the investment bank is an intermediary between the enterprise or government in need of funds and the numerous investors from whom those funds are ultimately obtained. But, in performing this task, the investment house must undertake three separate and distinct functions, viz.:

1. The investigation of the issue, and the purchase of the securities;
2. The underwriting of the issue; and
3. The distribution of the securities to the ultimate investors.

Every investment bank does not perform all three of these

functions. In fact, we can find innumerable types of institutions, which vary all the way from a large and financially powerful house like J. P. Morgan & Co. or Kuhn Loeb and Co., down to the small bond house which merely distributes securities that it has bought, in small lots, from some other investment bank. While some banks perform all three of the functions, others specialize in one of them, and any classification of institutions on this basis would be of little use to us. Greater value attaches to a discussion of the functions themselves, since all of these services must be performed by some investment banking institution in order that the raising of the necessary funds may be satisfactorily carried out.

Investigation and Purchase.—Before the investment bank undertakes to handle an issue of securities, it must be convinced that the borrower is financially sound, and that the issue is legal. To obtain this information, a very careful investigation must be made. Lawyers will be instructed to examine the charter of the company in order to determine whether or not it has the power to make the proposed issue of securities, and (in the case of mortgage bonds) to make sure that the legal documents governing the issue are entirely satisfactory from the viewpoint of the investment bank, and of the ultimate purchaser of the securities. Engineers will make a careful survey of the plant and equipment of the borrower, in order to ascertain its present value, and its potential earning capacity; while accountants will be required to make a detailed analysis of the accounts and other records, in order to obtain a picture of the financial history and the present financial condition of the business enterprise. If the proposed issue is to be made by a public authority, a similar study will be made of its right to issue such obligations, and of the probable revenue which it will receive during the life of the bonds, as related to the expenditure which must be met out of that revenue.

Like the credit analysis made by a commercial bank, the investigation is designed to show the true financial position of

the borrower. But, whereas in the case of the commercial bank the primary factor is the excess of current assets over current liabilities, the margin that will exist to meet the loan when it matures in the near future, the investigation of the investment banker is concerned chiefly with the showing of the income account, and with the excess of total assets over total liabilities. From the income account it is possible to ascertain the margin of profit which the borrower has received during the several years preceding the issue, and this information is indicative not only of the efficiency with which the operations of the enterprise have been performed, but also of the probable sum which will, in the future, be available to meet interest or dividend payments. On the other hand, in the case of an issue of bonds, the excess of total assets over total liabilities measures the extent of the security behind the issue.

Naturally the character of the investigation made by the investment bank will depend to a great extent upon the nature of the borrower, and upon the relationship which has existed between the two in the past. The investigation of an enterprise which has been in continuous business relationship with the bank for some time will be less detailed than that of one with which the bank has had no previous dealings. The investigation of the national government of a powerful European country will be perfunctory, whereas that of a small city in Central America might be very painstakingly carried out. In the majority of cases, however, the investigation tends to be rather expensive, and only the larger houses possess an organization large enough and competent enough to undertake the task. Moreover, when this study of the prospective borrower has been made, the final decision as to whether or not he will handle the issue rests with the investment banker himself. Upon his judgment and knowledge the question will ultimately be decided, and since sound judgment in these matters demands a familiarity with the line of business in which the borrower is engaged, most investment bankers tend to specialize in certain types of

securities. While one house deals chiefly in railroad securities, another will handle nothing but real estate bonds, and so on.

When the banker has finally decided that he will handle the proposed issue of securities, it is necessary to fix a price that will be mutually agreeable to the issuing corporation and to himself. Since the investment bank makes its profit from the difference between the price at which it buys the securities and the price at which it sells them, it will desire to purchase the issue at the lowest possible figure. The borrower, on the other hand, will wish to obtain as high a price as possible, and, owing to the competition between the investment houses, he can frequently do this. In most cases, therefore, the price at which the issue is bought will be based upon the banker's estimate of the price at which it can be sold, and in the case of a borrower whose securities are already quoted on the market, such an estimate is easily arrived at. But, in the case of a new corporation, the task of fixing the price at which the issue is to be purchased may demand a good deal of study on the part of the banker, and considerable negotiation with the issuer of the securities.

Underwriting.—By underwriting an issue of securities, the investment banker promises that the issuer shall receive, on a specified date the total amount of the purchase price of the issue, in spite of the fact that the securities themselves may not have been purchased by the ultimate investors before that date. The borrower naturally wishes to know when he will receive the funds, in order that he can carry into execution the projects on which he wishes to expend them; but the market for investment securities is notoriously fickle, and while one issue may be sold to the ultimate investors in a day or so, another may remain on the hands of the bankers for weeks or even months. Even the same security can be more readily sold at one time than at another. It would, therefore, be exceedingly inconvenient to the borrower if he should have to bear the risks attached to the marketing of the securities. His

projects would have to remain in suspense until the whole issue had been sold to investors, which might be a matter of days or months. The investment banker, therefore, assumes this risk by underwriting the issue.

Nowadays many security issues run into tens or even hundreds of millions of dollars, and, since the underwriter may have to hold, for an indefinite length of time, any part of an issue which cannot immediately be sold, an investment bank does not usually underwrite the whole of a large issue on its own account. In some cases it will associate with itself a few other investment houses under a *joint-account arrangement,* while in others it will form a *syndicate,* composed of several institutions which each underwrite a specific portion of the total issue. In either case, the result is to spread the risk over a larger number of banks, so that, if the issue should not be entirely sold, each of the participating institutions will be obliged to take over a proportionate amount of the unsold securities. Even in the case of a large investment bank which could, if necessary, carry the whole issue with its own resources, it is customary to ask other banks to participate in the underwriting since, by this means, each bank is enabled to diversify its risks. Obviously, it is better to underwrite half a million dollars' worth of each of twenty issues than to carry the risks attached to a single issue of 10 million dollars.

As a compensation for the service of underwriting, the investment bank receives a commission on that portion of the issues for which it assumes liability. If the issue was purchased by the original investment banker at a price of 95, it might be underwritten by the syndicate at 96—thus allowing the originating bank a profit of one point on the whole issue as a compensation for its work in conducting the investigation and forming the underwriting syndicate. The bonds would, let us suppose, be offered for sale to the public at 99, so that if the underwriting banks should assume responsibility for marketing the whole issue they would receive a profit of three points

as compensation for both underwriting and marketing the securities.

Distribution of the Securities.—In practice, however, the members of the underwriting syndicate do not themselves market all of the securities, but call in additional investment banks, and other financial institutions, to assist them in this task. "The tendency is for only one house, or a small group of houses, to bring out an issue and organize a syndicate; for a considerable number of houses to participate in the underwriting; and for a very much larger number to participate in the selling campaign."[1] The institutions participating in the selling campaign will include not only a large number of small bond houses throughout the country, which have developed a clientele of local investors, but also insurance companies, commercial banks, and even large investors, who are enabled by this method to obtain their securities at a lower price than that at which they would have to purchase them from a bond house. To continue our previous illustration, if the securities were to be sold to the public at 99, the members of the selling syndicate would purchase them at, let us say, 98. All of these figures, it must be remembered, are hypothetical since the actual relationship of the various prices will vary from one issue to another, but they will serve to illustrate our point.

Each of the institutions associated in the selling campaign will subscribe for that portion of the total issue which it feels that it can safely dispose of, or which it wishes to hold for investment purposes; and, since such a subscription is binding, the selling houses assume a certain proportion of the market risks. If a member of the selling group agrees to take 100 bonds, it must pay for that number at the rate of 98, and if only 70 bonds can be sold immediately, it must hold the remainder until such time as it can dispose of them. It is clear, therefore, that in case selling houses subscribe to the whole

[1] H. G. Moulton: Financial Organization of Society, 2nd ed., p. 225.

issue, the risk is lifted from the shoulders of the investment banks which underwrote it.

In order to facilitate the sale of the securities, the syndicate usually conducts an advertising campaign through the pages of the newspapers and financial magazines. Prospectuses are also printed and widely circulated, but, in the majority of cases, the actual selling of the securities is done by salesmen. A bond house which specializes in distribution will invariably have a corps of trained salesmen, each of whom develops a clientele of his own from among the investors with whom he is in frequent contact. It is through this organization that the actual distribution of the securities takes place, and it may be remarked that an efficient sales organization is tending to become an increasingly valuable asset in the investment banking business. Of late years, there has been a distinct tendency toward specialization, on the one hand, of houses which are peculiarly qualified to originate issues, and, on the other, of houses whose sales organization qualifies them to specialize in distribution. The two functions differ fundamentally from each other; in one case the house must be specially adapted to the making of the necessary investigation and attending to the details of purchase, while the other type of house is primarily interested in developing close and cordial relations with the investing public. Both types of houses participate in the underwriting of security issues, but it is unusual for any, excepting the largest of investment banks, to give equal importance to both the origination of issues and the distribution of the securities.

Incidental Services of the Investment Banker.—In addition to these main functions, the investment banker performs numerous other services for both the issuing corporation and the purchaser of the securities. Where such a step is possible, the underwriting syndicate will have the security listed in the Stock Exchange, and, as long as the syndicate is in existence, market operations will be carried on to stabilize its price. Some-

times these operations have been a danger rather than a help to the investor, since prices of securities have been held at a fictitious level, until the whole issue is sold, and then allowed to slump. But, if the issue is sound and the market operations honestly undertaken, both the issuer and the investor benefit from the fact that a market is created for the security.

Investment banking institutions, and particularly the bond houses which specialize in the retail selling of securities, also give valuable advice and assistance to the investor in his choice of securities. Most of the banks furnish a good deal of information to their customers free of charge, and many will conduct investigations and recommend particular securities which are suited to the customer's need. In a recent case, an investment bank made a detailed investigation of all of the securities held by another financial institution, recommended which of these securities should be retained and which should be sold, while suggesting securities in which the proceeds might well be invested. Such a service to the customer adds to the prestige of the bank and enhances its goodwill, while at the same time, it offers to the average investor the advice of men who are much more conversant with financial matters than he is himself.

At the other end of the scale, the investment bank often assumes the rôle of financial advisor to the corporation whose securities it handles. Not only does it offer advice as to the kind of securities which should be issued, and the time at which they should be sold; it also gives continuous aid in all financial matters connected with the activities of the enterprise, and may, in some cases, supply a member of the board of directors who can keep in close touch with all developments, and be competent to assist the company in formulating its policy.

Financial Resources of Investment Banks.—While the financial resources of investment banking institutions vary greatly in size, ranging from the strength of a Morgan to the weakness of a newly established bond house in a small city, in almost all cases the capital of the bank is not adequate to handle

the volume of business which it transacts. Like the commercial paper house, the investment bank relies to a large extent upon loans obtained from the commercial banking system, the funds being obtained on the promissory note of the institution secured by the deposit of investment securities. In many cases these loans are of comparatively short duration, the funds being obtained to provide for the purchase of the securities, and being repaid as soon as those securities have been sold. Where the issue is not immediately sold, however, the loans may run for some time—and, as we have already seen, the commercial bank is in this case extending credit for fixed capital purposes, since the proceeds of the loan were paid over to the enterprise issuing the securities.

Economic Services of Investment Banking.—Of outstanding significance is the fact that the investment banks, as a whole, exercise an important influence over the direction of the flow of industrial energy. Since the total supply of capital in any community is seldom large enough to meet the demands of all those who think that they could profitably use a portion of it, it is necessary that some enterprises shall receive capital while others will not be able to obtain it. In view of the fact that almost all business enterprises are compelled to resort to the investment banker in order to raise the funds which they need, the banker, through his choice of those enterprises which he will assist, is able to facilitate the development of certain classes of economic activity and to discourage development in other lines.

In the second place, the operations of the investment banker have tended to diminish greatly the cost of raising funds. A business enterprise is, therefore, enabled to obtain those funds which are necessary to provide its plant and equipment at a lower cost than that which it would have had to pay if the investment banking system had never existed. Because of this, the overhead costs of the business enterprise are similarly reduced, and the commodities or services which it produces

can be marketed at a lower cost than would otherwise have been possible. While it is impossible to attribute to the services of the investment banker any specific proportion of the continuous decrease in costs, which has marked the economic progress of the last few decades, it is clear that investment banking has played an appreciable part in facilitating this important influence on social well-being.

Finally, the investment banking system may be said to exercise a considerable influence upon the standards of business operation. Through the investigation which it makes of each business enterprise that wishes to market an issue of securities, it is able to determine the standards on which that enterprise has been conducted, and in reaching a decision with regard to the issue it is compelled to evaluate those standards. Since the assistance of the investment bank is vital to the existence of the business enterprise, the standards set by the bank will tend to become basic to all business operations and so will exercise a great influence upon the economic activity of the community.

The Stock Exchange.—Although the Stock Exchange has no direct relationship to the business of the investment bank in the originating and distributing of investment securities, its operations are of tremendous indirect importance, since it is doubtful whether the present investment banking system could ever have developed without some organized market in which securities could be bought and sold. Only a small portion, if any, of a new issue of securities can be sold on the stock exchange—but the investment banker is enabled to sell his securities to the public much more easily when the purchasers are assured of a market on which they can, at any time, sell their securities if they should desire to exchange them for liquid funds. Unless they felt that a security could easily be sold, many people would not care to purchase it, and for that reason the existence of the security market is of vital importance to the investment banker.

While there are many stock exchanges at various places throughout the country, the New York Stock Exchange is the largest and most important of them all, and may be said to be the nucleus of the whole security marketing organization of the United States. Its beginnings, like those of many another social institution, were very humble: it originated, toward the end of the eighteenth century, with the daily meetings of a group of ten men in a coffee house. From that beginning it has grown to be a very large organization, but even today the stock exchange is only a place where a group of men meet to buy and sell securities. The exchange itself does not buy or sell securities. Like the Corporation of Lloyd's Underwriters in London, it merely provides the building in which its members can transact business.

These members are of two classes. First we have the *dealers*, who are professional operators buying and selling securities for their own account, and seeking eagerly to make a profit on every transaction. In addition to these are the *brokers*, who do not trade for their own account but merely execute the orders of their customers, and receive their profits from the commissions which they charge. Some members of the exchange are free lances, dealing in all classes of securities at various times, but of late years there has been an increasingly large group of specialists who, by continually trading in a small group of similar securities, acquire a proficiency in regard to those securities which can be turned to profitable account. Although the operations on the floor of the exchange are basically no more complex than this, the organization of the market, as a whole, must include all of those brokers who are not members of the Stock Exchange, and all of the many investors and speculators who purchase and sell securities. Taken as a whole, therefore, we have an organized market through which any one of a large number of "listed" securities can be readily bought or sold at a price which is generally known. That price will naturally vary according to the relative importance of

supply and demand in the case of a given security, since an organized market is particularly sensitive, but the published quotations always give an approximate idea of the price at which a given individual may either purchase or sell any particular security.

Because of its peculiar sensitiveness to all influences, whether psychological, physical, or financial, which affect either the supply of, or the demand for, a particular security, the Stock Exchange performs a valuable service to the community in continually testing the value of each security. When a substantial number of purchasers think the present price too low, their combined demands will tend to raise it; when conditions arise in regard to the issuing corporation which tend to diminish the value of its securities, the price of those securities on the exchange will fall. At any given moment, therefore, the price of a particular security may be said to represent the combined judgment of hundreds, or even thousands, of individuals as to its actual value—and, although a wave of optimism or pessimism may sway a great majority of those individuals in one direction, and so lead to a change in the price of the security, it remains true that the mechanism of the stock exchange tests the value of a security more satisfactorily than any other method which could be devised.

Moreover, since the market contains numerous individuals, whose vision embraces both present and future conditions, the operations of the stock exchange tend to stabilize the prices of the securities that are traded in. Without some such mechanism, the price of any security would vary from one place to another, and in any single place it would be subject to extreme fluctuations from time to time. By means of an organized market, which is continuously in touch with all parts of the world, geographic variations in the price of any listed security are practically eliminated, and the changes which occur from one time to another tend to be less violent. Such a result would naturally flow from the concentration of the operations of

large numbers of buyers and sellers, and the fact that "coming events cast their shadows before" would have a similar influence. If there is reason to believe that a particular security will increase in value three months from now, the operations of the Stock Exchange will cause the price of that security to rise gradually during the whole period—whereas, without an organized market, such a result would be almost impossible.

Finally, the existence of the Stock Exchange facilitates the investment of funds for short periods. An individual—or a commercial bank, as we have already seen—can invest a temporary surplus of funds in securities with the knowledge that he can easily sell those securities when he needs the funds for other purposes. Of course, the investor assumes the risk of loss through falling prices, but over short periods, and in normal times, that risk is not a large one. Besides, the important thing is the knowledge that securities can definitely be sold, since that enables the investor to feel certain that he can rely upon obtaining the greater part of his funds when he is called upon to use them. If there were no exchange, the fluctuations in price would probably be greater, and it would be infinitely more difficult to turn securities into cash.

The marketing of new securities is frequently carried on by the investment banks without any assistance from the Stock Exchange, which is primarily a market for old securities. But the two are inextricably related. Most of the larger investment banking institutions are represented on the floor of the Exchange, and, even apart from this personal connection, the marketing of new securities is closely connected with the fluctuations in the price of old securities. When the Stock Exchange is active, it is usually easier to sell new securities to the general public, although, in the case of bonds, an undue rise in the price of stocks may make the former unpopular with the investor. Moreover, the commercial banks are called upon to finance the activities of the Stock Exchange in a manner similar to that in which they assist the investment banks—

so that from all angles it is necessary to include the Stock Exchange in any discussion of the investment banking system.

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CHAPTER 25

AGRICULTURAL CREDIT FACILITIES IN THE UNITED STATES

Although agriculture is one of the most important economic activities of the United States, it has, until recently, received inadequate attention at the hands of the banking system. The commercial banks tend to extend credit primarily to the mercantile community, granting loans which are nominally paid off at the end of a comparatively short period. The investment banks, on the other hand, supply long-term credit to those business enterprises of which the securities can readily be sold to the general public. A large portion of the funds required by the agricultural community is needed for a period longer than that for which the commercial bank generally makes loans, but a farmer cannot readily obtain funds from the investment banker, because his needs are too small to attract the attention of that individual, and his obligations could not easily be sold to the public.

Problem of Agricultural Audit.—Broadly speaking, the credit needs of the farmer may be divided into three classes. In the first place, he requires *short-term commercial credit* to meet the expenses incurred in harvesting and marketing his crop; in the second place, he needs *long-term investment credit* in order to purchase land, or to carry out improvements on the land which he already owns; while thirdly, the farmer needs what we may call *intermediate credit*, loans for a period of from six months' to a few years' duration, with the proceeds of which he can purchase equipment and make minor improvements on his farm.

The need for commercial credit has been, and still is, adequately met by both state and national banks. From his local bank, a farmer can usually obtain the necessary short-term loans to meet the expenses connected with preparing his crop for market, and, in the majority of cases, these loans are paid at maturity as promptly as any of those which commercial banks grant to industrial or commercial enterprises. In the case of ranching, the facilities provided by the commercial banks are supplemented by those of the cattle loan companies, which make loans on the note of the borrower, secured by a chattel mortgage on the stock and its natural increase. Such cattle loan paper is indorsed by the company, and sold to banks or other financial institutions, being regarded as equal to high-grade commercial paper. Moreover, the notes given by the farmer to his bank, may, if that bank is a member of the Federal Reserve System, be rediscounted with the Reserve bank of the district, provided that they are of less than six months' duration.[1] On the whole, therefore, it is apparent that the commercial credit needs of the farmer are as adequately met as are those of any other business enterprise, and, if the rate of interest charged on agricultural loans is higher than that which prevails in industrial centers, the difference may be ascribed, in large part, to the differences in the risk arising from the loan.

In regard to investment credit, the needs of the farmer were comparatively small until the last few decades. When a man could obtain a sizable tract of land from the government for a dollar and a quarter an acre, it was possible for him to carry on a rather primitive kind of farming without being called upon to invest any large amount of funds in fixed capital. But, as the supply of "free" land diminished rapidly, and finally disappeared entirely, it became necessary for a would-be farmer to purchase his land at a price which, apart from temporary

[1] In some cases, paper may be rediscounted, which does not mature for nine months, but this may not be used to secure Federal Reserve notes.

fluctuations, has risen steadily during the last half-century. In addition, it became increasingly apparent that farming would not pay, in many areas, unless the land were improved by drainage and fertilizing, all of which required a substantial capital investment. Since the average farmer does not possess any large surplus of liquid funds, it was necessary for him to borrow either on the strength of his character, or, more generally, against the security of a mortgage on his land. But it was not always easy to find a lender. Some of these loans would be taken by commercial banks and insurance companies, some by individual investors, but it was very difficult for the individual farmer to get into contact with a lender who was willing to advance the funds which he needed. The mediation of mortgage brokers and mortgage companies met this difficulty to a certain extent, but, even so, the rates of interest paid by the farmer tended to be very high, and there were large variations in rates between different areas.

The needs of the agriculturalist for intermediate credit tended to be met, in as far as they were met at all, through the same channels. Loans obtained from the commercial banks might be renewed serially until they could be repaid; a mortgage loan might be obtained for a few years; while, in other cases, the farmer would obtain equipment on long-credit terms, paying for it gradually over a period of years. On the whole, therefore, the needs of the farmer for both intermediate and long-term credit were inadequately met. The supply of funds was far less than that which could have been used to advantage in agriculture, and the rate of interest which had to be paid on the loans that were obtained was too often exorbitantly high.

The Federal Farm Loan System.—The agricultural credit problem which existed in the United States at the opening of the present century was not a new one. Similar situations had arisen in almost all of the countries of Europe, and, in general, it had been found that the needs of the farmer are not ade-

quately met by private enterprise. Long-term loans to an individual farmer require careful analysis before they are made, and continual supervision during their lifetime, but the prospective lender is not always able to assume these tasks. Moreover, if the funds are to be used to advantage in agriculture, the rate of interest must be comparatively low. "Nearly everywhere, therefore, there has been a feeling that rural mortgage banking called for the application either of government supervision and aid, or of cooperation and cooperative organization."[2] In Germany, for instance, a strong agricultural cooperative movement developed round the credit unions, which, under governmental supervision, were able to meet the need of the farmer for funds and also to assist him very substantially in other directions.

No matter by what means the end is achieved, it is apparent that agriculture calls for some system of mortgage banking. An institution is required which will advance funds to the individual farmers and pool the numerous mortgages into a group, against the security of which investment securities can be sold to the general public. Such securities, representing a proportionate interest in several mortgages, are very much safer than a single mortgage loan would be, while in addition, they can be sold in small denominations to investors who would never be able to purchase a whole mortgage amounting to several thousands of dollars. Moreover, the farmer who receives the funds and sinks them in improvements to his land, will only be able to repay the loan out of the increased annual product which he obtains. Amortization is absolutely necessary, i.e., the borrower must be able to make an annual payment which includes both principal and interest, so that the entire loan may be extinguished in a stated period of time. But the investor does not usually like his capital to be returned in driblets; he desires that it shall be repaid in a lump sum, so that, once again, we see the necessity for some intermediary

[2] H. P. Willis and G. W. Edwards, *Banking and Business*, p. 345.

institution which can use the periodic repayments of capital to retire a certain portion of the bonds each year.

An attempt has been made to set up in the United States an agricultural credit system which shall provide adequate mortgage banking facilities, and also encourage that cooperation among farmers which has proved of such value in other countries. Under the Federal Farm Loan Act of 1916, supplemented by the Agricultural Credits Act of 1923, we have, in reality, three different credit systems, which are all coordinated through the agency of the Federal Farm Loan Board. Briefly, the three systems are:

1. That provided by the 12 Federal Land banks, and some 5,000 cooperative national farm loan associations;
2. That provided by some 50 Joint Stock Land banks, which are mortgage companies incorporated under federal charter; and
3. That provided by the 12 Federal Intermediate Credit banks, and one National Agricultural Credit Corporation.

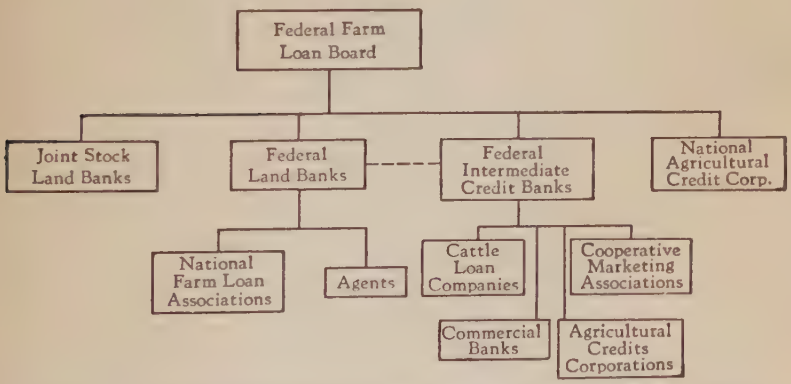

Figure 10. The Relationship of the Financial Institutions Supplying Agricultural Credit

Figure 10 shows the relationship between these various institutions, of which the first two groups are interested in

supplying long-term investment credit to the farmer, while the last (as its name indicates) deals in intermediate credit.

The Federal Farm Loan Board.—The Federal Farm Loan Board resembles the Federal Reserve Board, in that it is the central organization through which the operations of the agricultural credit system are coordinated. It consists of the Secretary of the Treasury, who is a member ex officio, and six other members appointed by the President. The Board meets at Washington, and its executive duties are performed by one of the appointed members, who receives the title of Farm Loan Commissioner.

While the Board exercises a tremendous influence over the whole agricultural organization through its efforts to educate the farmer to a method of operation which is financially sound, its immediate work in chartering the various specialized institutions, which we have mentioned, and in supervising their activities is an even more important task. To the board of directors of each Land bank it appoints three members, and in each district it appoints appraisers and registrars, as well as examiners who periodically investigate the financial condition of all of the financial institutions over which the Board has jurisdiction. Finally, the Board has the power to review the rates of interest charged by the Federal Land banks, in a similar manner to that in which the Federal Reserve Board passes upon the discount rates of the Reserve banks.

The functions of the Federal Farm Loan Board are, therefore, of considerable importance in regard to both administration and coordination. It must be admitted, however, that these functions are much less vital in regard to agricultural credit than they are in the case of central banking. Conditions in the several Land bank districts differ considerably; but coordination is not as imperative as we found it to be in the case of the Reserve System, although it does tend to reduce costs and to equalize the supply of funds throughout the country.

Federal Land Banks.—The United States has been divided into twelve districts, and in each of these a Federal Land bank has been set up. Each bank must have a minimum capital of $750,000, which, in the future, will be entirely subscribed by the national farm loan associations discussed below, but, during the formative years of the system, it was necessary for the federal government to purchase a large portion of the stock in order to provide the banks with the minimum capital. Unlike the case of the Reserve banks, no restriction is placed upon the dividends which may be paid on Federal Land bank stock, since the profit motive does not militate against efficient operation in this case. The bank is, however, required to accumulate certain specified reserves.

The management of each bank is in the hands of a board of seven directors. Three of these, as we have already noticed, are appointed by the Farm Loan Board; three others are elected by the national farm loan associations in the district, while the seventh is chosen by the Farm Loan Board from a list of three names submitted to it by the local associations.

The Federal Land banks are mortgage banks, lending funds against the security of mortgages and reimbursing themselves by selling *farm loan bonds* to the general public. Such bonds, which may be issued to an amount not in excess of twenty times the capital of the bank, are excellent investments and have proved very popular. In the first place, they are exempt from all state and federal taxation, which makes them attractive to wealthy investors, and, in addition, they are particularly well secured, being based upon good mortgages, secured by the assets of all of the Federal Land banks, and backed by the Government of the United States. These bonds customarily run for twenty years, and there has been little difficulty in selling large amounts of them at a rate of interest from 4½% to 5% per annum.

National Farm Loan Associations.—The method by which the Federal Land bank makes its loans is of particular interest.

It will be remembered that one of the purposes of the system was to promote, in the United States, that cooperation among agriculturists which had been found to be so beneficial in foreign countries. For this reason, the bank does not lend directly to the farmer, and, although in a few cases it may extend credit through some existing financial institution which acts as its agent, the greater part of its loans are made through the *national farm loan associations*. Such associations consist of ten or more natural persons, who own farm land and who are anxious to borrow money. They may be considered a species of cooperative credit union comparable to those of other countries. The shares of the association have a par value of $5, and every member must subscribe to one share for every $100 of the loan which he wishes to obtain, so that an applicant for a loan of $10,000 would have to purchase one hundred shares in the association, costing a total of $500. Each share carries a vote in the election of the officers of the association, and in regard to all other matters, but no member is allowed to exercise more than 20 votes in all.

Funds may be borrowed by the members for periods of five years or more, in order to purchase or improve land, or to pay off existing indebtedness incurred for either of these purposes, but, in no case may the loan exceed 50% of the value of the land, or 20% of the value of the improvements. A first mortgage on the land is given as security, and the loan is paid off under an amortization plan which calls for equal semi-annual payments over a period of years. The law also provides that no member of the association may borrow less than $100, or more than $25,000. The national farm loan association selects the loans, appraises the value of the security (subject to revision by the appraisers appointed by the Farm Loan Board), attends to all the arrangements with the Federal Land bank, and guarantees the mortgage by the joint indorsement of its members. The association also attends to the supervision of both the loan and the security.

Perhaps the best method of depicting the practical workings of the system is by means of a hypothetical illustration. Let us suppose that a national farm loan association is formed by twenty individuals, who wish to obtain loans amounting in all to $150,000. The members will individually purchase stock in the association to the extent of 5% of the amount of the loan desired by each, so that, in the aggregate, they will purchase 1,500 shares at $5 each. Having examined the mortgages and appraised the security, in order to satisfy itself as to their legality and adequacy, the association will apply to the Federal Land bank of its district for a loan of $150,000, depositing as security the mortgages executed by its members. Before the loan is granted, the association must purchase stock in the bank to an amount equal to 5% of the loan, so that it will receive $142,500 in cash from the Land bank, and $7,500 in the stock of that institution. The cash it will then distribute to its members, in proportion to the amount of the loan for which each applied, while it will itself hold the stock and receive the annual dividends thereon.

The most important officer of the national farm loan association is the secretary-treasurer, who handles all of the executive business. On the whole, these officials have performed this task very efficiently, despite the fact that they are usually in receipt of very scant remuneration. At the present time, there are somewhat less than 5,000 associations in the United States, varying greatly from one another in size and in the extent of their activities. It would seem, however, that the cooperative movement has not taken a very deep root in American soil, and the activities of these associations are very disappointing when compared to those of similar groups in other countries. Generally speaking, they exist chiefly for the purpose of obtaining loans from the Federal Land banks, and, when that purpose is accomplished, they often lapse into a state of quiescence.

Joint Stock Land Banks.—In addition to the governmentally aided cooperative system already discussed, the Act

of 1916 also provided for the creation of privately owned and operated mortgage banks, which should be chartered by the federal government and known as Joint Stock Land banks. A minimum paid-up capital of $250,000 is required, which must all be subscribed by private individuals, as in the case of a national bank. Indeed, apart from the regulation imposed by the Act and by the Federal Farm Loan Board, these joint stock banks are, in every sense of the word, private institutions.

The Joint Stock Land banks are subject to the same limitations as those which govern the purposes for which loans may be made by the Federal Land banks, and they obtain their funds in similar fashion by the issue of bonds—although, in this case, the maximum amount of the bond issue is limited to fifteen times the capital and surplus of the bank, and the bonds are not in any way sponsored by the Government of the United States. While the Joint Stock banks are not subject to the maximum interest rate of 6% which applies to the loans made by the Federal Land banks, both institutions are limited to a rate of interest on loans which is not more than 1% in excess of the rate paid on the last issue of bonds sold to the public. A further limitation is imposed upon the operations of the Joint Stock banks in that they are only permitted to do business in two contiguous states, whereas the Federal Land banks each operate in several states.

Despite these apparent handicaps, the Joint Stock Land banks have experienced a steady growth, and some 50 of these institutions are now in operation. They cater to those farmers who desire loans in excess of the maximum limit of $25,000 imposed on the Land banks, since the Joint Stock banks may lend amounts of not more than $50,000. They also appeal to farmers in whom the spirit of cooperation is not adequately developed to persuade them to join a national farm loan association, since the Joint Stock Land bank deals directly with the borrower, and so saves him from the necessity of having

to purchase stock in a farm loan association to the amount of 5% of the face of his loan.

Federal Intermediate Credit Banks.—The needs of the farmer for commercial credit had long been supplied by the commercial banking system, and, after the establishment of the institutions discussed above, he was able to obtain long-term credit in adequate amounts and at a satisfactory rate of interest. The need for intermediate credit, ranging from six months to three years, was still inadequately met, however, and, as a result of the post-war agricultural depression and the predominance in political circles of the "farm bloc," the Agricultural Credits Act was passed in 1923 to remedy the defect. Obviously, the problem was one to which a solution could not easily be found. If a large number of new banking institutions were set up to supply intermediate credit to the farmer, they would compete with the existing banks which already granted a considerable number of loans for that purpose. Moreover, it is highly improbable that the volume of this kind of business would have been adequate to support a group of new institutions.

It was, therefore, decided to meet the situation by creating banks which could rediscount the paper already in the hands of other institutions, and for this purpose there were set up twelve Federal Intermediate Credit banks, one in each city where a Federal Land bank was already situated. The directors of the Federal Land bank are ex officio the directors of the Intermediate Credit bank, and the two institutions are very closely linked together administratively, although the accounts of each are kept separately. Each of the Intermediate Credit banks was required to have a minimum capital of $5,000,000, which was subscribed in full by the government of the United States. The profits are to be divided equally between the government and the reserve fund.

Broadly speaking, these banks have two distinct functions. First, the Act states that they may "discount for, or purchase from, any national or state bank or trust company, agricultural credit corporation, livestock loan company, or cooperative marketing association, any note, draft, bill of exchange, or other obligation the proceeds of which have been advanced or used in the first instance for any agricultural purpose." In other words, the intermediate credit bank may rediscount those credit instruments which are not near enough to maturity to be eligible for rediscount at the Reserve bank, and so provide the member bank, or other financial institution, with a means of turning a larger portion of its resources into cash in time of need. In the second place, the Intermediate Credit bank may "make loans or advances direct to any cooperative association, composed of persons engaged in producing and marketing staple agricultural products or livestock, up to 75% of their value, if the notes are secured by warehouse receipts or shipping documents or mortgages on livestock." In no case do they enter into direct relations with the individual borrower, and the extent of their operations is, therefore, largely dependent upon the desire of the existing financial institutions to rediscount the paper which they hold. In 1928, the total loans made by the twelve Federal Intermediate Credit banks to cooperative associations amounted to somewhat less than $18,000,000, while the rediscounts were slightly more than $50,000,000—so that the total operations are still comparatively small.

In order to obtain the necessary funds with which to carry on their operations, the Federal Intermediate Credit banks are given power to issue debentures, with a maturity of not more than five years, against the security of their general assets. Up to the present time, this has been the method usually employed, but, in addition, the banks are authorized to sell their unsecured promissory notes on the open market, while, in the third place, the Federal Reserve banks are authorized either to rediscount paper for the Intermediate Credit banks, or to

purchase the debentures issued by those institutions. The last two methods of raising funds have been but little used since 1923, and it is probable that, in the immediate future, most of the necessary funds will continue to be obtained by the sale of debentures, since these short-term securities are readily marketable.

National Agricultural Credit Corporations.—The Act of 1923 also provided for the creation of National Agricultural Credit Corporations, formed by five or more natural persons, and chartered by the federal government for a period of fifty years. A minimum subscribed capital of $250,000 is required, of which one-half must be paid in before the corporation begins business.

The activities of these corporations are very similar to those of the Intermediate Credit banks, but, whereas the latter are rediscount institutions, the corporations deal directly with the individual borrower. Moreover, the national agricultural credit corporations are restricted to paper with a duration of not more than nine months, unless the loan is secured by a warehouse receipt, or a lien upon livestock, in which case it may run for three years. The corporation may not lend to any one borrower an amount greater than 20% of the capital and surplus of the corporation, and the total liabilities may not exceed ten times this latter sum. Like the Intermediate Credit banks, these corporations may issue debentures, but in this case the debentures may not run for more than three years.

At the time of writing, only one such corporation is in existence, the Pacific National Agricultural Credit Corporation of Fresno, Calif., which has a capital of half-a-million dollars, and total resources of slightly more than 3 millions.

Provision is also made for a special type of agricultural credit corporation, with a minimum capital of one million dollars. Such a corporation would not deal directly with the borrower, but would specialize in rediscount operations similar

to those of the Intermediate Credit banks. Up to the present time, however, no such corporation has been formed.

The Results of the System.—The most outstanding results of the agricultural credit system which has been set up are:

1. It has equalized interest rates throughout the country;
2. It has lowered the cost of loans; and,
3. It has increased the supply of funds available for agricultural purposes.

Owing to the fact that most of the Farm Loan bonds are the joint obligation of all of the twelve Federal Land banks, and that most of them are issued through a joint agency, there is no valid reason why the investor should differentiate between bonds arising from loans in different parts of the country, even when such a differentiation is possible. As a result, a borrower in Texas or Wyoming can obtain funds at a rate equal to that paid by a farmer in New York or Massachusetts. In the second place, the cost of the loan, the rate of interest which the farmer must pay for the funds he needs, has been substantially lowered. This is due, in part, to the fact that the pooling of many mortgages makes the bonds a safer investment than any individual mortgage could possibly be, and, in part, to the fact that the risk attaching to each mortgage loan has been reduced by investigation and cooperative guarantee. The decrease in the rate of interest on agricultural loans is, moreover, a direct result of the increase in the supply of funds available for agricultural investments. Many more investors, particularly those with small means, can invest their savings in Farm Loan bonds than could have purchased the whole of a single agricultural mortgage, with the result that the market has been greatly widened.

There are, however, some criticisms of the system. In the first place, as we have already suggested, cooperative activity has not developed among the farmers to the extent desired by many who supported the Act. While the national farm loan associations have satisfactorily performed their office as an

intermediary in regard to the lending of funds, there are but few cases in which they have widened their cooperative activities to include the many other fields in which such a development would have aided the farmer. In the second place, it has been contended that the system has not led to any substantial increase in farm ownership. The number of tenants who have used the system to purchase land has been comparatively small, and, in so far as the system was designed to remedy the position of the tenant farmer, it has not succeeded. Finally, there has been much criticism of the tax exemption privilege conferred upon the bonds issued by Federal Land banks and Joint Stock Land banks. It is contended that this constitutes unfair competition with the other mortgage banks, which were already operating in the field, and it is clearly a violation of the fundamental canons of taxation. Nevertheless, in spite of these defects, the agricultural credit system has conferred a real benefit upon the country, and has proved invaluable to that agricultural element which constitutes so large a section in the general economic organization.

Suggestions for Further Reading

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CHAPTER 26

CONSUMPTIVE CREDIT INSTITUTIONS

In Chapter 8, we divided credit, on the basis of the use to which the funds are devoted, into three classes—commercial credit, investment credit, and consumptive credit. As we have already observed, the needs of the community for the first two groups of credit are adequately met by the existing banking system, and it remains for us to consider the facilities which exist to enable the individual to borrow funds for use in consumption. Historically, consumptive credit gave rise to the earliest lending operations, since the first loans of which we have any evidence were granted to kings and princes in anticipation of their revenues, or to individuals in temporary distress who needed funds with which to purchase the very necessaries of life. In either of these cases, it is apparent that the use to which the funds are put does not supply a means for the repayment of the loan. The completion of the mercantile transaction provides the funds with which the borrower may repay a commercial loan; the increased income, due to improved equipment, enables a borrower to retire the investment credit which made possible the purchase of that equipment; but, if the proceeds of the loan are used in consumption, repayment can only be made out of the general resources of the borrower.

Consumptive Credit and Doctrine of Usury.—In view of the fact that the proceeds of most of the loans of antiquity were needed for consumption, we find that the church—which was particularly charged with the social welfare of the community—frowned upon all loans at interest. Usury was entirely prohibited by the Mosaic law, partly because consumption loans

were really in the nature of philanthropy, and partly in recognition of the fact that the economic condition of the borrowers was such as to make the payment of interest an impossibility. This view of loans at interest prevailed throughout medieval Europe. "Money is essentially unproductive. Anyone, therefore, who demands fruit from it, sins not only against positive commandments of divine and secular law, but also against the nature of things." Such were the pronouncements of the schoolmen, and even in the business world the lending of money at interest was regarded as a gross sin. "In the Papal indulgences money gained through usury was put on a level with stolen goods. . . . Whether the usurers themselves, that is the whole body of the merchants, had uneasy consciences when they received interest it is not easy to say; but certainly this was true of not a few of them. In the twelfth and thirteenth centuries merchants often, or perhaps regularly, directed in their wills that their heirs should restore their gains from usury, or should employ them for the salvation of the testator's soul."[1]

By the end of the Middle Ages, this situation had largely disappeared. As credit came to be used more and more for commercial and industrial purposes, it became apparent that the borrower was enabled to profit from the use of the funds, while the lender was compelled to forego a profit which he might have made by using them. Gradually, therefore, both common and civil law came to recognize the validity of interest on loans, and although *usury* was still prohibited, the term gradually came to be confined to those transactions in which the lender demanded an exorbitant rate of interest. Such a differentiation between legal interest and usury was recognized in the Roman Empire as early as the time of Justinian. Gibbon points out that, at that time, "persons of illustrious rank were confined to a moderate profit of four per cent; six was pronounced to be the ordinary and legal standard of interest; eight was allowed for the convenience of manufacturers and mer-

[1] Ehrenberg, *Capital and Finance in the Age of the Renaissance*, p. 42.

chants; twelve was granted to nautical insurance, which the wiser ancients had not attempted to define; but, except in this perilous adventure, the practice of exorbitant usury was severely restrained."[2]

The economic activity of the Middle Ages exercised less influence on legal and social standards, however, and after the glory of Rome had been forgotten, we have to wait for Francis Bacon—who was among the first of medieval writers to defend the lending of money at interest. "Many have made witty invectives against Usury. They say it is a pity that the devil should have God's part, which is the tithe. That the usurer is the greatest sabbath breaker, because his plough goeth every Sunday; and the like. I say this only, that usury is a thing allowed by reason of the hardness of men's hearts: for since there must be borrowing and lending, and men are so hard of heart as they will not lend freely, usury must be permitted. . . . If it be objected that this (the plan suggested by Bacon) doth in a sort authorize usury, which before was in some places but permissive; the answer is, that it is better to mitigate usury by declaration, than to suffer it to rage by connivance."[3] Truly, there is in this no great praise of the practice of lending money at interest, but there is clear evidence that the practice was growing more and more common.

But the fact that interest became legal when credit came to be used for productive purposes did not in any way improve the position of the individual who finds it necessary to borrow a small sum to meet immediate expenses which he is forced to incur. Such an individual has received but little assistance from the banking system of the United States. In some cases consumption loans have been granted by the commercial banks, but only to borrowers who are already customers of the bank, and who are, therefore, somewhat above the financial status of the lowest groups of society. The operations of the discount

[2] *Decline and Fall of the Roman Empire*, Ch. XLIV.
[3] *Of Usury*, collected works edited by Ellis and Spedding, 1857.

and finance companies have enabled many individuals to purchase goods on instalments, and brought about a rapid increase in the total volume of consumptive credit, but this does not help the man who is in desperate need of immediate cash, and the same may be said of the building and loan associations which supply funds for the erection of dwelling houses. Some assistance is rendered by stores, which supply the necessaries of life on credit until the purchaser can earn the funds with which to pay for them. Much has also been done by the credit unions where they exist, but, on the whole, the institutions which we have discussed up to now offer very little assistance to the man who wishes to obtain a small loan for consumptive purposes, and, in view of this, he has been compelled to seek accommodation from other sources.

The Pawnbroker.—Perhaps the most common of financial institutions, at any rate in the larger cities, is the office of the pawnbroker—and it is from this source that many individuals obtain a temporary loan of funds for purposes of consumption. Although the pawnbroker of today has nothing of the power and splendor of his ancient prototype, he is a direct descendant of the earliest of bankers, since his profession was known and practiced in very ancient times. Even the three golden balls, with which he invariably adorns his place of business, are, by one legend, linked to the coat of arms of the Medici, who were among the greatest financial houses of Italy.

In reality, however, the pawnbroker does not lend money to his clients. He purchases certain articles of property which he agrees to resell, at a higher price, if the customer wishes to regain them within a stipulated period of time. For this reason the business of pawnbroking was not within the scope of the old usury laws, and even at the present time the pawnbroker is not limited by the legal maximum rates of interest which exist in several sections of the United States. In almost all states, however, it has been found necessary to regulate this

business, partly in the interest of those who are compelled to obtain funds from the pawnbroker, and partly because the latter have often been the recipients of stolen goods, on the resale of which they were able to make large profits. Usually the pawnbroker is required to take out a license before he can begin business, and to renew that license each year, and the government exercises a more or less careful supervision over his activities. Frequently the interest and charges which the pawnbroker may levy are regulated by the state or the municipality, and, although the details of such regulation vary considerably from one place to another, the total cost to the borrower may be said to be between 30% per annum (in Baltimore) and 66% per annum (in Philadelphia). The duration of the loans also varies, but the usual period seems to be thirty days, with an indefinite number of renewals so long as the amount of the interest and charges is regularly paid each month.

So closely do the operations of the pawnbroker affect the lives of many of the poorer members of the community, that frequent efforts have been made in many parts of the world to provide an institution, operating on the same principles, that would meet the needs of borrowers at a less extortionate cost. As early as 1462, there were established at Perugia, Florence, and other Italian cities *monti di pieta* operated by the Franciscan monks. These were charitable institutions for advancing money on pledges, in a manner identical with the operations of the pawnbroker, excepting that they were not operated for profit. Soon afterwards, the idea spread to England, where similar institutions were set up under the leadership of the Bishop of Winchester. In all of these cases it will be noticed that the institutions were owned and operated by the church, but in France, shortly before the Revolution, there was set up a national *mont de piété*, owned and operated by the government, with branches in all of the larger cities. Although, like many other institutions, this disappeared in the chaos produced

by the French Revolution, it was re-created by Napoleon in 1804, and still flourishes as a state-owned and operated system, which advances money against pledges at a comparatively low rate of interest, and distributes a large portion of its profits for the support of the poor.

In the United States, no such development has occurred, but in many parts of the country institutions have been set up by groups of men who desire to provide a service which shall pay its own expenses but not take advantage of the economic weakness of the borrowers. Such institutions are usually known as "provident loan societies" or "workingmen's loan societies," and, although they are in no sense charitable enterprises, they are able to advance funds to the borrower at rates substantially lower than those which he would have to pay to the pawnbroker. Some improvement has, therefore, been made by such societies, and by better regulation of the pawnbroking business, but on the whole it must be admitted that conditions in the United States are still far from satisfactory, when viewed from the angle of the community. At the same time, however, it must be realized that the pawnbroker is becoming less important as a source of consumptive credit because of the growth of other institutions which meet the need of the borrower more adequately and at a lower cost.

The Loan Sharks.—Another source from which the individual might obtain small temporary loans is the loan shark—one who lends money in small amounts on the promissory note of the borrower. Such a note is sometimes unsecured, but more often it is supported by a chattel mortgage on the furniture and other property of the borrower, or by an assignment of his wages or salary. Since the risk of this type of business is very much greater than that incurred in the ordinary lending operations of a commercial bank, it is necessary to charge high rates of interest. In states where a legal maximum rate of interest exists, this tends to make the transaction illegal, and

so to increase the risk incurred by the lender, which, in turn, drives the rate of interest still higher. As a result, it is usual to find the borrower paying interest at a rate of 10% or 20% *per month* in such transactions, while cases have been known in which he was compelled to pay as much as 50% per month. The charges are, therefore, ruinously high, and yet it has been found that more than three-quarters of the individuals who borrow from the loan sharks "are men with families who are temporarily in need and are helped out of difficulty by a loan. . . . Sickness or death in the home is perhaps the most common cause of temporary need. Another common cause is found in the custom of demanding rentals in advance. This, coupled with the expense of moving, frequently exceeds the savings of the household. It appears, also, to be a common practice among clerks and young employees to borrow a small amount of money when in need of a suit of clothes or anything which requires an unusual expenditure. Life insurance premiums, interest on mortgages, and similar obligations, Christmas and birthday presents, are some of the less frequent but still not uncommon objects for which money is secured from the loan sharks." [4]

In view of the fact that the transaction is often an illegal one, the lenders are compelled to rely upon methods of intimidation if the borrower does not repay the loan at the due date. Since some employers are in the habit of dismissing a man who has made an assignment of his wages or salary, it is often an effective weapon, where the lender holds such an assignment, to threaten to disclose it to the employer. In other cases, professional collectors are employed who make themselves an annoyance by embarrassing the borrower in the eyes of his friends and neighbors. On the whole, these methods have proved remarkably effective, and the business has proved to be exceptionally profitable to the loan sharks themselves.

[4] G. W. Wassam, *The Salary Loan Business.*

Once again, however, the system is clearly unsatisfactory from the social viewpoint of the community as a whole, since it involves the payment of extortionate rates of interest by those persons who are least able to bear the burden. By means of publicity, the Russell Sage Foundation and other organizations have done much to improve the situation. In many states the regulations governing money-lending have been more stringently enforced; in others special remedial loan legislation has been passed; while in very many places *remedial loan societies* have been created to meet the legitimate demands of applicants for credit. These societies make loans on the promissory note of the borrower at a rate of interest which is usually 3½% per month. Such a rate is high enough, but it is very much less than that charged by the loan shark, and, since the business is an expensive one, in view of the numerous small loans and the necessity for supervising the periodic repayments, it seems that a rate of 42% per annum is the lowest at which the remedial loan societies can be successfully operated.

Another development of a somewhat different kind has been the growth of cooperative lending clubs. Some of these are perpetual organizations, operated by fraternal organizations, which are designed to encourage the members to save and also to furnish a source from which they can borrow small sums in time of need. Even more interesting is the development of informal clubs among groups of workmen in a single plant or a single locality. In one case of the kind, the employees of a pianoforte factory each pay 25 cents a week into a fund which is voluntarily administered by one of their number. Any member may borrow from the club amounts of not more than $25, for a period of not more than one month, paying interest at the rate of 8% per week. About a week before Christmas the aggregate funds, derived from both subscriptions and interest on loans, are divided equally among the members of the club, the division usually giving each member a handsome profit on his weekly subscriptions. While the rate of interest in this

case is not nominally a low one, the borrower tends to receive a substantial profit at the end of the year which greatly reduces the net cost of his loans, and, in view of the fact that almost all the members of the club appear to borrow at some time during the year, the average cost is much less than it would be in the case of small loans obtained from any other source.

Morris Plan Banks.—In 1910, J. Arthur Morris conceived the idea of setting up an institution which should make small loans to workingmen on the basis of character, and at a comparatively low rate of interest. The first Morris Plan bank was started in Norfolk, Virginia, but on the twentieth anniversary of its foundation there were in operation 115 separate Morris Plan banks serving the needs of 147 cities throughout the United States. During the two decades intervening between 1910 and 1930, these banks had made some 6,500,000 loans, totaling one and one half billion dollars.

A few years after the creation of the first of these institutions, the Industrial Finance Corporation was organized in New York, with a capital of $3,700,000, to serve as a nucleus for the whole system. Although the Industrial Finance Corporation does not control the various Morris Plan banks, it holds a minority of their stock and exercises a general coordinating influence, which is particularly important in view of the fact that the variations in state laws cause differences in the structure and methods of operation of the various banks. "It provides service departments for the local banks; attends to legislation, pushing such laws and amendments as are necessary or beneficial to industrial loan companies; rediscounts trade acceptances and notes for the local banks, thus acting as a source of funds; and borrows by the sale of national trust certificates sold to the public through the local banks." [5]

The plan under which the operations of these banks are carried on is comparatively simple. The prospective borrower

[5] R. B. Westerfield, *Banking Principles and Practice*, p. 367.

is required to furnish references as to his character, and must supply particulars regarding his income and present financial situation. He must have two indorsers of his note, whose situation and income are as good as, or better than, his own, or alternatively he may offer a real estate mortgage or other acceptable collateral security. The amount of the loan is repayable in fifty weekly instalments, interest at 6% per annum and a commission of 2%, being deducted from the proceeds which the borrower receives. If he falls behind in his weekly payments, the indorsers of his note will be informed of the fact, so they may keep him up to his obligation. If they fail to do this, and the borrower remains delinquent, the indorsers are called upon to make the weekly payments in his place.

The consumptive loans granted by the Morris Plan banks, therefore, tend to be somewhat less costly to the borrowers than those obtained from any of the institutions which we have previously discussed, but we must not be misled by the nominal figure of 6%. If an individual borrows $100, $6 interest and $2 fees will be deducted from the amount of the loan. The borrower will therefore receive $92—but since he will repay $100 in fifty equal weekly instalments he really has an average loan of less than $50 throughout the year. On this average balance he pays $8, so that the actual cost of the funds is somewhat more than 16% per annum. This rate is very reasonable, in view of the expense to which the Morris Plan bank is put in investigating the borrower and supervising the repayment of the loan; and the dividends paid on the stock of these banks have in no case been particularly large.

The success of the Morris Plan banks has led many commercial banks throughout the country to establish *industrial loan departments,* operating on similar principles and meeting the same needs. While such departments are, as yet, by no means general throughout the country, many of them have proved very successful and the number of them tends to increase steadily as the years pass.

Labor Banks.—The labor banking movement, which began with the creation, in 1920, of the Mount Vernon Savings Bank in Washington, D. C., by the International Association of Machinists, represents a rather novel development, and one deserving of our attention. "Labor banks" are ordinary savings banks or commercial banks, of which a majority of the stock is held by a trade union, and, while we include them at this point because they have definitely set out to cater to the demands for credit of those individuals whose requests would receive but little attention from the existing commercial banks, it must be remembered that the making of consumption loans is not their only aim. Generally speaking, they were created with two primary ends in view, first, to enable the union to invest its funds in a manner which would permit them to earn a higher rate of interest, and secondly, to give the union control of a fund of capital which would greatly strengthen its position and facilitate the actions which were taken in order to advance the interests of its members. As an incidental result, it may be pointed out that not only do they make small loans to working men for purposes of consumption, but they also set out to encourage thrift by paying a rate of interest on deposits which is somewhat higher than that paid by other financial institutions, and by offering to their customers valuable advice in regard to investments. In all of these ways the labor banks have brought the services of banking institutions into the lives of a class which they did not previously cater to.

If we regard only these aspects of the situation, the creation of the labor banks has been an unmitigated advantage, and the same may be said of the fact that the supervision of the bank's operations offers to the union leaders a valuable training in financial and business matters, and a closer acquaintance with many of the economic activities of society. There are, however, certain dangers against which these institutions must guard if they are to prove permanently successful. In the first place, it is necessary that the operations of the bank should be

in the hands of trained executives, and the loans which are made must be such as are in accordance with the canons of sound financing. On the whole, these conditions have been observed, although we have witnessed such instances to the contrary as that of the Producers' and Consumers' Bank in Philadelphia, which closed its doors in 1925. From the viewpoint of the union itself, it is also necessary to realize that, by tying up its funds in banking operations, it might jeopardize its position if a strike should occur, but fortunately no situation has arisen to test this possibility.

The labor banks hold a particularly interesting position in regard to the struggle between capital and labor. In very many instances, the lending policies of the banks have been made to subordinate themselves to the economic policies of the union. Loans have been refused to those enterprises which were thought to be opposed to the interests of labor, while, in other cases, loans have been granted to business enterprises with whose management the union was in sympathy. To give only one illustration, in the autumn of 1920 the Mount Vernon Bank advanced $40,000 to meet the pressing financial needs of the Crescent Company, a machine shop which did not lower wages in accordance with the suggestion of the Ironmasters' Association. An element of what we may call "social control" is thus introduced into the banking business. Operations are not entirely motivated by pecuniary profits, but are based upon a desire to increase the well-being of the laboring classes. Up to the present time, the labor banks constitute only a small part of the banking system, but, if they continue to grow, and if their policies are wisely administered in the interest of the whole community, they may become a factor of considerable social importance.

Consumptive Credit and the Banking System.—After having received but little attention from the banking system for several centuries, consumptive credit is once again coming

to be recognized as an important element in the financial organization of society. In earlier chapters, we have seen that, owing to the development of finance companies, the purchase of goods on the instalment plan has increased by leaps and bounds. Similarly, the growth of credit unions and of building and loan associations has opened up another source from which the individual can obtain funds for purposes of consumption.

The growth in the volume of consumptive credit has caused increased demands to be made upon the commercial banks of the country, for they are compelled, either directly or indirectly, to provide a large part of the credit used for this purpose. While the pawnbroker and the loan shark did not borrow from the banks to any extent, but traded on their own capital, the institutions which are growing up to replace them are obtaining funds from the investment market and the commercial money market. On the one hand, the commercial banking system is supplying consumptive credit directly through the industrial loan departments which have been set up; on the other hand, they are called upon to supply a large part of the working capital of the finance companies, Morris Plan banks, and other institutions operating in this field. It is not without significance, in this regard, that the Bank of England (a central banking institution) has recently taken the unprecedented step of investing more than $1,000,000 in the capital stock of an institution that specializes in the financing of instalment sales.

The steady increase in the volume of consumptive credit, which the last few decades have witnessed, has had marked social and economic consequences. In the first place, it has enabled the poorer classes of the community to raise their standard of living to a much higher level by the acquisition of commodities which would not in all probability have been purchased had it been necessary to save up the amount of the purchase price in advance. This is particularly true in the case of expensive objects such as automobiles, pianos, furniture, etc.

Secondly, the supply of consumptive credit has tended to stabilize the market for consumers' goods, reducing somewhat the fluctuations which previously existed. Of even greater importance from the viewpoint of the individual, is the fact that the growth of consumptive credit institutions has removed the stark fear of debt, opening up a channel through which funds can be obtained easily and cheaply to meet an emergency. From both the economic and the social aspect, consumptive credit is proving itself to be as important to the community as either commercial credit or investment credit.

Suggestions for Further Reading

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CHAPTER 27

GOVERNMENT AND BANKING

The banking system is a many-sided organization which touches the economic activities of the nation at a thousand different points. We have already seen, in preceding chapters, how close are the links which connect the activities of the producer, the merchant, and the consumer to the various financial institutions, for, in a credit economy, the operations of these institutions pervade almost every field of human endeavor. But in a modern state, there is a tendency for government to play an increasing part in business activity. The actual relationship of government to business may assume any one of numerous forms. In the case of the railroads we have a close and effective governmental regulation; in other lines of economic activity the government assumes the rôle of an important customer; while to business in general it is acting as a counselor, and providing much valuable information on which scientific policies can be based.

In the social organization in which our lives are passed, both governmental activity and the operations of the banking system play a very significant part. If we should take as an example the United States at the present time, it would be no exaggeration to say that these two institutions exercise a predominant influence on almost all fields of business activity. The policies of each are being studied with increasing attention by the business man, who has learned that those policies are of great importance to him in the planning of his operations. It is natural, therefore, that the relationship between the government and the banking system should hold a good deal of interest for us. The points of contact between the two are

numerous, and those contacts exercise a great effect upon the economic organization and social well-being of the country.

By and large, we can distinguish three distinct fields into which our subject divides itself. In the first place, there is the relationship between the government and the banking system in regard to the handling of public funds and the execution of the fiscal operations of the Treasury. Secondly, we have the financial operations of the government, undertaken to assist certain kinds of economic activity which it is socially desirable to encourage. Finally comes the question of governmental regulation and control. Although the three fields are closely connected, there are distinctive elements in each which need to be separately discussed, so that it will be convenient to leave our conclusions unformed until we have completed that discussion.

The Handling of Government Funds.—Each year the Government of the United States receives from various sources, but principally from taxation, an aggregate income very much larger than that of any other individual or institution in the whole world. Out of this income it must meet all of the expenses incident to its activities, but the receipt of income does not always coincide with the time at which expenditures must be made, so that, although the average credit balance of the government is comparatively small, the actual amount on hand varies considerably from one season of the year to another. To handle the collection, transfer, and disbursement of government funds, some financial mechanism is vitally necessary, and, during the history of the United States, three different experiments have been tried, viz.:

1. The deposit of public funds in a number of selected banks;
2. The handling of all financial operations through the United States Treasury, and the various sub-treasuries; and
3. The use of the central banking system as fiscal agent.

Although the First and Second Banks of the United States were used as fiscal agents for the government, a service which they performed both economically and efficiently, their existence was of comparatively short duration. From 1811 to 1816 and from 1833 to 1840, the federal government was forced to depend entirely upon the numerous state banking institutions in all financial matters. Several of these banks were chosen as depositories for public funds, and payments would be made, by means of checks, against the accounts thus created. But unfortunately the depository banks were very badly selected in many cases. Political influence was more important than financial strength and soundness as a factor governing the decisions of the Treasury. In many instances, it became impossible for the government to withdraw from a depository bank the funds standing to its credit, while, in other cases, it was politically necessary to deposit funds in inconvenient places. Even if the banks had been well chosen, and were operated on sound banking principles, a substantial disadvantage would accrue to the government from the necessity of keeping its funds in numerous banks throughout the country—and, when neither of these conditions existed, the arrangement became intolerable. In 1837, the Secretary of the Treasury reported, "that funds in only six out of the eighty-six depository banks were available; five others had in a measure been able to meet the demands of the Treasury; his nominal balance was $34,000,000, but of this $28,101,644 had recently been transferred to the states, and over $5,000,000 was in suspended banks, leaving him actually but $700,000."[1]

Moreover, the use of governmental funds by banks "led to pernicious results in the expansion of credit, rashness of enterprise, and speculation." To remedy this situation, the government decided to handle all of its funds through its own organization, and, to make this possible, legislation was passed in 1840 under which sub-treasuries were established in various

[1] A. B. Hepburn, *A History of Currency in the United States*, p. 133.

parts of the country. The plan was primitively simple. All payments to the government were to be made in specie, and the sub-treasuries were to serve the purpose of enlarged strong-boxes, in which these funds could be physically stored until such time as the government needed them to make payments. It seemed, from superficial observation, that the government had at last hit upon a sound scheme, whereby its finances would be safeguarded, and the banks of the country would not be encouraged to "rashness of enterprise."

There was, however, one very serious defect in the independent treasury plan. The total stock of common money in the country was comparatively inelastic before 1913, while, as we have already seen, the demand for cash showed marked variations during the course of the year, and equally marked variations from one year to another. When we superimpose upon this situation an independent treasury, which will hold in its vaults a stock of common money of uncertain and variable amount, the dangers of the situation are obvious. When the balances in the Treasury were large, the stock of common money available to meet the needs of the rest of the community was correspondingly diminished, and there is no doubt that the operations of this system did much to intensify the periodic stringencies in the money market which characterized this period of American history. But, if the sub-treasury plan was unsatisfactory in normal times, it became absolutely unworkable in time of war. During the last war, when a single government bond issue sometimes amounted to a sum in excess of the total stock of common money in the United States, a literal adherence to this plan would have produced widespread chaos, because common money would have been temporarily unobtainable for business purposes! Even during the Civil War, when the expenses of the government were much smaller—both absolutely and in relation to the national wealth—the operations of the sub-treasury system produced such a crop of bank failures that it had to be virtually suspended during the war.

After 1862, the independent treasury system was somewhat modified, and various national banks were selected as depositories for public funds, but this practice cannot be said to have mitigated to any great extent the disadvantages of the system. When the Federal Reserve System was created, it was therefore expected that the new central banking institutions would assume the function of fiscal agent for the government. Such a development had occurred many decades earlier in most other economically developed countries. In England, France, and Germany, for example, the central banks had each become the sole depository for government funds, and had, in addition, performed valuable services in regard to the management of the public debt and the making of public disbursements. During the formative years of the Reserve banks, however, the government made but little use of them. It was only gradually, as the financial arrangements arising out of the war became larger and larger, that the Reserve banks assumed the task of handling the fiscal operations of the government. That they performed this task admirably is now a matter of common knowledge, and it is probable that the financing of the war-time activities of this country could not have been carried through without the aid of some such institution as the Federal Reserve System.

In 1920, therefore, the sub-treasuries were closed, the Reserve banks assuming all of their functions, and, although a certain amount of government funds is still kept on deposit with national banks, the situation in the United States is rapidly approximating to that which has long prevailed in European countries. The funds at the disposal of the government take the form of a checking account at the Federal Reserve banks. Like the majority of business enterprises, the government receives payments by check and makes its expenditure in the same manner. When an individual draws a check in favor of the Collector of Internal Revenue in order to pay his income tax, the only result will be a debit to the account of the individual

at his bank (resulting in a corresponding reduction in its account with the Reserve bank) and a credit to the account of the government at the latter institution. The fiscal operations of the country are, therefore, handled by the use of bank credit, and, since we have already seen that bank credit is the most elastic form of purchasing power in existence, those operations no longer cause the economic disturbance which was so characteristic before 1913.

But if this problem has been solved, it has been replaced by another. The size of the government's financial operations makes it the largest single customer of the Federal Reserve System, and, as a result, enables it to exercise a considerable influence upon the operations of the System. Cooperation between the Government of the United States and the central banking institutions is bound to become increasingly close and continuous as a result.

Special Financial Assistance.—Of a totally different nature are the relations of the government to the banking system which result from policies of aid to certain classes of economic activity. The recognition of the fact that it is of advantage to the community as a whole to assist certain sections of it, is as old as national history. But the methods by which that result has been obtained have varied considerably. In many cases, the tariff or a grant of subsidies have been considered as the only alternatives but, of late years, there has been witnessed in many parts of the world a distinct change in public policy. In order to benefit certain economic groups, the governments have frequently adopted a more business-like policy, and attained their end by the creation of machinery designed to supplement the existing banking system, and to operate on much the same principles as the existing institutions.

Thus, in the United States, where the needs of agriculture have, of late years, constituted the outstanding problem awaiting solution, the federal government purchased a large part of

the stock of the Federal Land banks, as well as a large number of the bonds issued by those institutions during the formative years of the Federal Farm Loan System. In this case, the assistance rendered by the government was purely temporary. At the present time, the greater part of the Land bank stock is held by the national farm loan associations, while the market for Farm Loan bonds is able to absorb the entire issue without any governmental support. The investment of public credit in the Intermediate Credit banks appears, however, to be a permanent step, since no provision has been made for the withdrawal of the government.

In other countries, we find similar instances of public credit being directed to the succor of certain industries. Both France and Germany followed a similar plan in regard to the reconstruction of certain economic enterprises which had suffered as a result of the war; in the case of Germany, the mercantile marine was the most important recipient of such aid, while in France attention was devoted to the industries in those areas which had been devastated during hostilities. The British Government has supplemented the activities of the banking system in regard to export trade by guaranteeing certain classes of foreign bills of exchange under the Export Credits Act, while a similar attempt has been made to facilitate the raising of investment capital under the Trade Facilities Act. Nor is the recent step of the Bank of England without significance in this respect. In order to aid the government in its attempt to rationalize industry and to alleviate unemployment, the Bank, in 1930, organized a financing investment trust and invested more than $1,000,000 in the capital of a finance company. It is true that, in this case, the steps were taken by the central bank rather than by the government, but there is little doubt that such an unprecedented expansion in central bank activities was carried out under agreement with the Treasury.

Such policies as those which have been described are of importance in two different ways. In the first place, they tend

to relieve the existing banking institutions of the burden of financing certain types of economic activity; while on the other hand, they generally result in increasing the total quantity of credit available for enterprises operating in particular fields. From whichever angle we regard such developments, it is clear that, provided they are well conceived and economically carried out, they are directly beneficial both to the banking system and to the community as a whole. But, once again, there is a tendency to foster a closer cooperation between the government and the banking system, since the desired ends can only be attained when there is close coordination of financial policy between the two.

Government Regulation of Banking.—The tendency to develop closer relations between the government and the banking system naturally raises the question of governmental regulation and control. Indeed, "banking was one of the first forms of business to be subjected to government regulation. Because of the almost universal demand for the accommodations which banking affords, and because of the tremendous power that is inherent in the control of loanable funds, the business has long been regarded as quasi-public in nature."[2] At a comparatively early stage in the evolution of banking, it was realized that governmental regulation was necessary in the case of bank note issues. The creation and issuance of money is a prerogative of the government, and, when that power was delegated to a banking institution, it was natural that the government should keep a watchful eye upon its agent, and require the bank to abide by certain conditions. Moreover, since the notes passed into general circulation, and were received by many individuals who knew nothing of the bank of issue, and who had no choice, in most cases, but to accept the notes and become a creditor of that institution, it was necessary that the government should protect the community against possible losses by assuring itself

[2] H. G. Moulton, *Money and Banking*, p. 197.

that the notes were perfectly safe, and passed current at their par value. In truth, this aim was imperfectly attained, but it has been widely recognized since the creation of the earliest banks of issue.

For many centuries, it was not felt necessary to apply the same regulation to bank deposits, and, in many countries, there is, to this day, no direct governmental regulation of deposit banking. The depositor chooses his own bank, and, inaccurate though the assumption may be, it is assumed that he is sufficiently well-informed to select a bank which is sound. If his judgment proves to have been at fault, the individual depositor must bear the loss. On the whole, there was good reason for such a differentiation between note-holders and depositors in the days when a bank account was a characteristic of wealth. Even today, despite the numerous mid-western projects for the guarantee of deposits, such a distinction has much to recommend it. But deposit-banking has assumed an important social significance for reasons that are totally different from considerations regarding the safety of the individual deposit. As we have already seen, by far the greatest portion of the total stock of purchasing power in the United States consists of bank deposits—of bank credit. More than four-fifths of all payments in the United States are made by check, and variations in the total stock of money are usually due to changes in the volume of bank credit. Since these changes in the volume of credit, through their influence on the unspent margin of society, cause changes in the value of the pecuniary unit, they are obviously of tremendous social consequence. The value of money is no longer determined by a certain weight of gold bullion, nor by the quantity of government paper money; it is a question of the volume of bank credit, and for that reason the credit policy of the commercial banking system must be subjected to regulation in some way or other.

In addition, a third reason for governmental regulation is rapidly coming to be recognized. As the custodian of the

reservoir of liquid capital, the commercial banking system exercises a tremendous influence over the direction of economic activity. By lending to one enterprise, and refusing credit to another, the commercial bank is able to direct a portion of the community's stock of capital to that branch of economic activity in which the first enterprise is engaged. Such a process of selection will always be necessary, since the supply of capital is never large enough to meet all of the demands of those who desire it, but the determination of the industries which shall be allowed to expand should not be left to the unregulated discretion of the banking system. We have already seen that this choice has been, in part, restricted by the steps taken by the government to assist certain industries, but, on the whole, it is apparent that public policy can best be served by governmental regulation of banking policy.

Methods of Regulation.—For these reasons the banking system in all countries has been thought to be a fit subject for regulation, but the methods by which that regulation has been carried into effect have varied considerably. While, in the majority of countries, governmental regulation has been performed through some central institution, in the United States an attempt has been made to regulate all banks directly, and this practice has survived the creation of the Federal Reserve System. Moreover, the extent of governmental regulation in this country is much greater than that found elsewhere. The detail of the regulatory legislation in the United States has often been subjected to criticism on this account, and writers have questioned the necessity for a system of public supervision that is so much more minute than that found in England or any other European country. It must be admitted, in general, that direct government regulation of individual banks is undesirable, since good bankers should be more familiar with the proper methods of banking than are legislators or political appointees, but, in the United States, where banking is "con-

ducted by thousands of local banks, many of which are very small and managed by men of limited business experience, the arguments against government regulation lose much of their force." Banking is more democratic in this country than in others, where bankers as a whole constitute a wealthier and more experienced caste. Banks in the United States are small and independent, whereas the characteristic institution in other countries is the big bank, with a large network of branches. "It was not until the common man's right to become a banker received recognition and banks began to spring up like mushrooms, that reliance could no longer be placed in the ability, pride, and resources of a banking class as adequate guarantees of safety."[3]

Once we grant the necessity of direct government regulation, however, we have paved the way for the development of a very complex body of laws, since, under the Constitution of the United States, there are forty-nine authorities with the power to regulate banking. The federal government, and that of each of the states, grants charters to banking institutions, and each authority sets out to regulate the institutions which it has created. Obviously, we cannot discuss each of the forty-nine systems, which differ from one another in many respects; and, since the national banking system is the best among them, we will confine our discussion to it—remembering that any criticisms of the national regulation will apply with even greater force to that imposed by the states.

In the first place, certain regulations are placed upon the organization of national banks. Before a charter is granted, the Comptroller of the Currency must be convinced that there is a need for additional banking facilities in the community in which the proposed institution will operate. Certain minimum requirements are also laid down as to the amount of the capitalization, and as to the time and form in which subscriptions to the capital stock must be made. When the bank has actually

[3] G. W. Dowrie, *American Monetary and Banking Policies*, p. 99.

commenced operations, other regulations must be observed. Certain types of lending operations, such as investment in corporate stocks, or some types of real estate loans, are entirely prohibited; while limitations are also imposed upon the total amount of credit which the bank may grant to any one individual or corporation. In regard to the aggregate expansion of credit, a limitation is imposed by the fact that the bank must hold a reserve of not less than the prescribed minimum, which varies according to the geographical situation of the bank. Finally, in order to be sure that the operations of the institution are at all times within the letter of the law, the banks are examined periodically by examiners appointed by the Comptroller, and, in addition, each bank is required to give a statement of its financial condition when called upon to do so.

While these regulations have eliminated the most obvious weaknesses of the commercial banking system, and set up standards which may be of value in guiding inexperienced bankers, they have accomplished little else. The regulation is entirely negative, and the standards which it requires are very low. In the case of railroad regulation it was long ago discovered that a policy of negative regulation—a table of *thou shalt not's* which is reminiscent of the decalogue—was by no means adequate. During the present generation, railroad regulation has, therefore, developed to a point where it has become constructive. The government cooperates with the transportation companies in order that the community may obtain the maximum benefit from its transportation system. A similar change was even more vitally necessary in regard to banking regulation, but the existing system could not be made constructive. Sound banking policy cannot be achieved by the most detailed legislation; it depends upon control by bankers with wisdom and experience, and upon the existence of a spirit of cooperation, by means of which their activities may be coordinated. For that reason the Federal Reserve System was created, but the older regulations still continue in force, and

the present policy of the United States is a hybrid, combining direct regulation with a form of central banking control similar to that found in other countries.

In a previous chapter, we discussed the nature of central banking and the methods by which central banks exercise a controlling influence over the operations of the commercial banks. In most countries, such governmental regulation of banking as exists takes the form of regulation of the central bank itself, relying upon that institution to bring the rest of the banks into line. The actual relationship of the government to the central bank varies considerably, however. At one extreme, we have the Swedish Riksbank, a government-owned institution, which is managed by seven delegates, of whom six are elected by the Parliament and one is appointed as chairman by the King. At the other end of the scale is the Bank of England, an institution which is privately owned and operated, and has no direct connection at all with the state. The majority of cases may be said to lie somewhere between these two, and the Federal Reserve banks (in which the stock is all owned by the member banks but one-third of the board of directors is appointed by the government) may be taken as an example.

Naturally, the extent of the governmental regulation will depend somewhat upon the constitution of the central bank. Where that institution is owned and operated by the state, its entire policy will be molded by the aims of the government. "The government undertakes the business of banking largely for the purpose of controlling and regulating rates of interest, insuring what it conceives to be a fairer distribution of loans, administering its own funds, and supervising the operations of the rank and file of privately owned banks."[4] Where the central bank is a privately owned institution, and the government is represented by a minority of the directors, its power will naturally tend to be somewhat less—but even in the case of the Bank of England, which is to all appearances entirely

[4] H. P. Willis and G. W. Edwards, *Banking and Business*, p. 463.

independent, it is apparent that the post-war policy of that institution has been greatly influenced by the economic program of the government.

In all of these cases, the regulation imposed by the government is very much less detailed than that which exists in the United States. Often the influence of the state is effective only in regard to broad questions of credit policy; usually it affects only the aggregate volume of bank credit, although, in some cases, it has definitely influenced the distribution of that credit among different types of business enterprise. The soundness of the banking system as a whole is in the hands of the bankers themselves, subject to the influence of public opinion. Where there are only a few large banks in the country, such a system is not only practicable, but highly desirable, since it simplifies banking practice and leaves the destinies of the banking system in the charge of those who are most fitted to fulfil the trust.

The Future of Government Regulation.—More and more, as the years pass, banking comes to be recognized as a sort of public utility enterprise, of which the activities exercise an immeasurable influence upon the whole of society. Many of the bankers have themselves realized this, and have formulated their policies in the light of such a responsibility. But there has also developed, in all countries, a tendency for the central government to take an active interest in the social well-being. In order to achieve certain ends, which are considered socially desirable, the government has restricted the operations of certain groups of enterprises, and encouraged the development of others. Such a policy of conscious direction of economic effort is still young, and it has grown more rapidly in some countries than in others, but, in all cases, it is apparent that the aims of the government can be more easily attained if it is enabled to rely upon the continuous cooperation of the banking system in carrying out its policy. "It is probable, therefore, that the

relationship between the government and the banking mechanism in modern countries will grow closer and more intimate in future years."[5]

The growth of such social policies would clearly have marked effects upon the general credit structure, and, for that reason, there have been many suggestions that the government should take over the banking system as a whole. A British economist, writing of the future trend of government in England, suggests that the Bank of England should be socialized, "and placed, subject to the final control of policy by the government through the Treasury, under an expert commission including industrial as well as banking specialists. . . . Socialization of the Bank of England would give the government a good deal of power over the amount of credit, but very little over its direction so that . . . both for the control of the volume of credit and for the guidance of its direction, full authority over the joint stock (commercial) banks is essential. . . . These should be dealt with in the same way as the Bank of England."[6] Here we have the extreme, a policy of social control which requires the government to become responsible for the direction of the central bank and the whole commercial banking system. There are many arguments to be found in support of such a policy, but it is not one which will appeal to the United States in the near future.[7]

Confining ourselves to more immediate suggestions, it is apparent that the banks of this country are tending to become both larger and fewer, so that the situation will more nearly resemble that in other countries. In such a case, the banking system could well be regulated by the Reserve System in a manner similar to that which exists in other countries. But, even at the present time, it appears highly desirable that the Federal Reserve Board should assume the responsibility for

[5] H. P. Willis and G. W. Edwards, *op. cit.*, p. 473.
[6] G. D. H. Cole, *The Next Ten Years of British Social and Economic Policy*, Ch. XI.
[7] It is not without interest that, under the Credit Law of April 1, 1930, the government of Soviet Russia has adopted a policy very similar to that suggested above.

the direct regulation of national banks. There is no valid reason for the continuance of the office of Comptroller of the Currency in regard to the national banking system, and (although difficulties might arise in regard to state banks) a great advantage would be secured if the Federal Reserve System should undertake the regulation of all its members. Such regulation could then be constructive. It would be measured by criteria of sound banking practice, rather than by the requirements of legal codes. As commercial banks become stronger it would become possible to relax the detailed regulation, but, even while such regulation is still considered necessary, the administration of it should be in the hands of those institutions which control the credit policy of the country.

The relations of the Federal Reserve System to the government will inevitably become closer as the years go by, but it is necessary to emphasize that this does *not* necessitate the injection of politics into banking. While the government must assume responsibility for evolving social and economic policies, the execution of those policies must be in the hands of trained bankers, whose experience and judgment qualify them to undertake the task. This distinction is of fundamental importance, and any attempt to make the banking system a political arena is doomed to failure.

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CHAPTER 28

BANKING CONCENTRATION

The future student of human history will look back with much interest upon the period in which we are now living, and upon that from which we have but lately emerged. Before the war, mankind was fairly confident that little could be added to the sum of human knowledge in regard to the fields of money, credit, or banking. Operations within each of these fields were looked upon as a routine which had been brought near to perfection, and, although it might have been admitted that some improvements in technique were possible, no such possibility was recognized in regard to matters of theory. From 1914 to 1918, the world was too much occupied with the business of fighting to give much thought to such matters as these, but from the time of the Armistice until 1928, many surprising developments occurred. During that decade, which will always attract the student of economic history, changes occurred in the field of banking which were at first regarded as temporary, but which we have gradually come to look upon as the permanent characteristics of a new era. Nor were these developments confined to banking. In all fields of economic activity we have become aware of new tendencies. One of these, the increasing activity of governments, has already been discussed in the last chapter, but, even if we concern ourselves entirely with private enterprise, we are faced with changes to which the term "revolutionary" has often been applied. These changes in the economic organization of society cannot but exercise a marked influence on the banking system, and, in some respects, the newer developments of banking must be regarded as the result of economic forces which are external to the banks themselves.

Recent Economic Tendencies.—In the first place, the individual units of the business world are larger today than at any previous time. Long before the war, the trust movement had become evident in the United States, and attempts had been made to curb it by such legislation as the Sherman Act and the Clayton Act. Trusts were not looked upon with any favor by either the government or the populace, and the growth of large business units tended, in the majority of cases, to be an underground process. But since the war, there has been a reversal of public policy. In the United States, although the anti-trust laws remain on the statute books, large business enterprises have been distinctly encouraged. It has been realized that large-scale production economizes the economic energy of the nation and, although price-fixing agreements are still actively discouraged, there has been a rapid development of business agreements between existing enterprises, with a view to the more efficient conduct of business activity. In other countries the movement has been even more obvious. The rationalization of industry has been the goal of almost all European countries since the Armistice, and in England the government has abandoned much of its traditional laissez-faire attitude in order to aid in the reorganization of English business along these lines.

Such a development is bound to influence the banking system. In view of the banking regulations which exist in the United States, if banks are to be in a position to serve their customers adequately, it is necessary that the growth in the size of banking institutions should keep pace with the increasing size of the typical business enterprise. This is of particular importance in this country, with its thousands of individual banks, for, in almost all other nations, the banks have been for many years large-scale institutions performing a variety of banking functions. To take as an example the case of Canada, in which the economic situation is in many ways similar to that of the United States, there are in that country only eleven commercial banks, with 3,800 branches in Canada and 200 in

other countries. Although there are no more than eleven different banks, there was in 1929 a banking office to every 2,380 inhabitants—a proportion much higher than that existing in this country. Moreover, the banks are authorized to open branches; to issue their own notes; to deal in coin and bullion, acceptances and bills; to lend money against negotiable paper and general public securities, stocks, bonds, and debentures of industrial and other corporations; and to carry on the general business of banking with very little detailed regulation on the part of the government.

Similar conditions exist in the majority of European countries. The commercial banking system is made up of a few large banks, and the number has tended to decrease rapidly during the first quarter of the present century. The United States is the only important country in which thousands of small and independent banks exist—and yet it is probable that there are business enterprises in this country very much larger than those which are found in either Canada or Europe.

A second tendency which is evident in regard to business activity in the United States, is a sharp decrease in the amount of funds borrowed from the commercial banking system. This is due, in part, to the practice of holding smaller inventories—a practice which has grown up as a result of the improved facilities for transport and communication, and in part, to the ease with which the larger business units have been able to obtain the necessary funds from the investment market. As a result of the diminution in the demand for purely commercial credit, in which they were traditionally supposed to specialize, the commercial banks have been compelled to broaden the scope of their operations and enter new fields. While such a development may be regarded as the result of the need for a profitable avenue through which to invest their funds, there can be no doubt that the banks have also been motivated by a desire to maintain their contact with business enterprises by increasing the number of services which they are qualified to render.

Bank Failures.—Looking at the picture from another angle, it is apparent that all has not been well with the banking system during the post-war years. In the latter part of 1929, the Comptroller of the Currency pointed out that during the period from the beginning of 1921 to the end of 1928, 5,000 banks had failed in the United States, with aggregate deposits amounting to $1½ billions. Of these, some 700 were national banks, while the remainder were institutions operating under state charters. It was further shown that 80% of the failures were in cities with a population of less than 3,000, and that 70% of the institutions which closed their doors were capitalized at $50,000 or less. Naturally such an epidemic of failures could not be normal, but in order to emphasize the seriousness of the situation, it may be pointed out that the number of failures during this period amounts to more than three times the number of bank failures during the two decades from 1900 to 1920!

Such a condition is symptomatic of serious weaknesses in the banking system, and it is necessary to inquire further into the reasons for it. The President's Conference on Unemployment has pointed out that, "dishonesty and gross mismanagement account for a small number of these failures. The suspension of a larger number was precipitated by adverse conditions of a purely local character, such as a succession of crop failures or the sudden collapse of real estate booms in particular towns and cities. But the great majority of the banks failed because they were unable to withstand the stress exerted by the persistence of unprofitable prices for the products of agriculture and animal husbandry."[1] In this statement is an implicit recognition of the economic weakness of the numerous small banks, which are finding it increasingly hard to carry on operations at a profit, and maintain their financial soundness. Indeed, in the same report it is pointed out that, "while there is no *exact* relationship between the number and size of the entire

[1] *Recent Economic Changes*, Vol. II, pp. 693–694.

group of banks in a locality and the strength of its banking position, it is certain that no community can hope to enjoy the benefits of safety in banking if the business is organized in units so numerous as to exceed the available supply of competent officers and responsible directors, and with insufficient earning power to absorb the inevitable losses."[2]

As the years pass, it has, therefore, become increasingly apparent that the very safety of the banking system demands a concentration of control, and of resources. In order to provide against tragedies, such as those which have marked the progress of banking in recent years, it is necessary that the individual banks should be strong enough to stand the shocks occasioned by business fluctuations, without failing under the strain, and it is equally necessary that these larger banking units should be directed by men of experience in the world of finance—trained bankers who are capable of formulating sound policies, and carrying them into effective practice. By such concentration, the commercial banks would acquire strength in two ways. In the first place, by reason of the increase in their aggregate resources, and, in the second, through that diversification of risks which large-scale operations make possible.

But, if banking concentration is necessary in order to insure the safety of the system, it is also looked upon with favor for two other reasons. The large bank is better able to meet the demands of the larger business enterprises, which we have already recognized as typical of the new economic era. It is natural that the billion-dollar corporation should give rise to the need for a billion-dollar bank, since it is clear that the banking needs of such a corporation could not be satisfactorily met by any of the small banks throughout the country, with total resources of less than a million dollars. Moreover, the evidence of history shows that the profits of large-scale banking exceed those which are earned by the smaller institutions, because of the decrease in the relative importance of financial

[2] *Ibid.*, p. 695.

losses, and of the greater stability of earnings, which result from diversified operations.

For all of these reasons—safety, service, and profit—the movement toward banking concentration has proceeded rapidly in the United States during the past few years. Although there was a slow movement in this direction during the period between the Civil War and the European War, concentration has proceeded at a rapidly increasing pace since 1918, and there are no signs that the pace will lessen during the next few years. But concentration may proceed in either one of two ways: it may be *intensive* or *extensive*. In the case of intensive concentration, we have no change in the geographic sphere of the bank's operations, but merely an increase in size and a diversification of function; while extensive concentration of banking resources involves the bringing under a central control of numerous allied banking offices in several different places. In the majority of countries the two movements have proceeded simultaneously: as the bank increased in size it opened new branches. But in the United States, although there has been no limitation placed on the growth of a bank so long as it confined its operations to one place, there has been a serious opposition to any geographical expansion, and, for that reason, it is necessary to treat each of the movements separately.

Department Store Banking.—Intensive concentration has proceeded steadily since the war, producing a decrease in the number of banking institutions, and an increase in their average size. Thus, in June, 1921, there were 30,812 banks of all kinds in the United States with aggregate resources amounting to $49.7 billions, while by June, 1928, the number of banks had fallen to 26,213 and the aggregate volume of resources had risen to $71.5 billions. To take another example, there were, in June, 1921, 9,745 member banks in the Federal Reserve System with aggregate resources amounting to $25.5 billions; in June, 1928, the number of banks was only 8,929 but their total

resources had increased to $37 billions. If we should record the amalgamations in the larger financial centers, we should find that the process of concentration had proceeded even more rapidly, for both of the above sets of figures include large numbers of small institutions scattered throughout the country. The typical urban bank of the present time is a very much larger institution than the one which would have been characteristic of the years before the war, and, in view of this fact, the number of banks has been rapidly decreased by the process of amalgamation.

Moreover, the growth in size has been accompanied by a corresponding diversity of function. Despite all the canons of traditional banking theory, "the commercial banks do not now confine their lending operations to mercantile establishments, but extend credit to all classes of enterprise, industrial and financial as well as commercial; . . . some of their unsecured loans are devoted to fixed capital purposes, and they make a huge volume of loans on collateral, a large percentage of which is devoted to fixed capital purposes. . . . Commercial banks now usually have savings departments; and it may be noted that many of them also have investment banking or bond departments. Some of the largest commercial banks of the great financial centers are extensively engaged in underwriting activities, while many of the state commercial banks are actively interested in the financing of urban real estate operations."[3] The commercial banks have developed into *department store* institutions, combining a large variety of services under one roof, by two methods. On the one hand, the typical bank has tended to develop new departments as it increased in size, adding at one time a trust department, at another a bond department, and so on. An even more frequent method has, however, been the absorption of institutions performing functions complementary to those of the absorbing bank. A large commercial bank in the financial section of the metropolis

[3] H. G. Moulton, *Financial Organization of Society*, p. 718.

would amalgamate with a trust company or savings bank—thus increasing the variety of its activities.

Since commercial banks, whether they be state or national institutions, are prohibited from dealing in stocks, it was impossible for such an institution to assume directly the functions of an investment banker. Yet it is clear that, if the needs of business enterprises are to be fully served, and the current financing practices to be met, such a function must be assumed. In addition, it is clearly to the advantage of the bank if, by the possibility of rendering such a service, it can keep in touch with the financial operations of its customer in regard to both commercial and investment credit. As we have already seen, the two forms of credit are, to a growing extent, interchangeable, and a bank cannot supervise the credit operations of its customer unless it is in a position to deal in both forms of credit. The need for such a supervision has long characterized the relationship to business of the European banks, particularly in the case of Germany, and those institutions have regularly catered to the investment credit needs of their customers. To meet this situation, many of the larger commercial banks in the United States have established separate companies to perform investment banking operations, while others have entered into close relationship with existing investment banks. Perhaps the most outstanding example of such a development, by which the "department store" bank is rendered capable of meeting *all* of the financial needs of its customers, is the establishment of the affiliated National City Company by the National City Bank of New York.

The advantages which flow from such a diversification of operations are obvious. Not only is the bank in a position to render a better service to its customer by attending to all of his financial needs (and a large number of his personal comforts), but it is able to strengthen its own financial position by a wide diversification of risks. When an institution is able to use its funds for investment credit purposes, for instalment financing,

or for mortgage loans on real estate, in addition to the purchase of commercial paper and acceptances, or the making of direct commercial loans to its customers, it is in a position to spread its total resources over a large number of fields, and so to bear more easily a loss in any particular one of them. Moreover, the department store bank has a peculiar advantage in attracting business. When it has secured a customer in any one of its departments, and has gained that customer's confidence by the soundness of its operations and the efficiency of its service, it is highly probable that the bank will be called upon to furnish any other financial services which the customer may need from time to time. In this way, the various departments of the bank gain business from one another, and the total volume of the institution's operations tend to grow steadily.

But we have already had occasion to remark that bankers are often among the most conservative members of the community, and the loudest criticisms of this development have come from the bankers themselves. Perhaps the most frequent objection to the department store institution is that it tends to become a Jack of all trades and master of none. It is contended that efficiency can only be secured by specialization; that the institution which specializes in a given field is able to acquire a much greater knowledge of that field, and so to bring a larger amount of knowledge and experience to bear upon the problems with which it is confronted in the course of its operations. Such an argument is not new; it has been leveled at the English joint stock banks whenever they have attempted to perform a larger number of functions, and it contains a grain of truth. But the critics overlook the fact that the specialized department of a large bank often handles a greater volume of business than the specialized institution with which it competes. The executives in charge of such a department are men whose ability and experience are equal to, or even greater than, that of the specialist in charge of a small institution—and the department store bank has the additional advantage of being

able to call upon a large number of specialists in various fields to help in finding a solution to any of the major problems which arise in the formulation of its policy.

A second danger, which has also been much emphasized, lies in the fact that the operations of the several departments of a large bank may not be properly separated in the accounting records. The inefficiency and financial loss of one department may be concealed by the aggregate accounts of the whole institution. This is a valid criticism. The accounts of each department must be kept separately, so that the financial results of its operations can readily be determined. This is a principle of sound banking and, in general, we can rely upon the banker himself to insist upon it for his own guidance. It is not necessary, however, that the figures should be made public, nor is it a sign of weakness if one department or another should at times show a decreased profit. One of the great advantages of concentration is this very ability to cancel one loss against another profit, and, so long as the accounts are kept in a manner which permits the determination of the actual loss or profit of each department by the individuals who direct the policies of the whole institution, the criticism has been fully met.

Branch or Group Banking.—The traditional banking system of the United States is composed of a large number of unit banks, but the advantages which exist in the case of intensive concentration apply with equal force to extensive concentration. Indeed, in some respects, the need for a geographic diversification of banking—for banks with numerous offices which are each representative of the whole institution—is even greater. "Under a system of independent unit banks, the accommodation that is available to the great mass of borrowers is limited to the amount of funds at the disposal of the local banks. But as any particular business undertaking grows in size, the geographical range of its borrowing possibilities widens."[4] Under a unit banking system, in contrast with a

[4] *Recent Economic Changes*, Vol. II, p. 691.

highly developed branch banking system, the borrower is often compelled to seek distant supplies of funds, because supplies of funds are not sent to his neighborhood for employment. In view of the fact that the size of the business enterprise has grown, an independent banking system is disadvantageous to both parties. The business man is inconvenienced by the necessity of seeking funds in distant markets, and the small bank suffers by the loss of a good customer. Now it is clear that *all* of the commercial banks in the United States cannot expand in size and become department store institutions; and it is equally clear that business would be seriously handicapped, to say nothing of the inconvenience to the general public, if all of the small banking institutions should close their doors, and leave only a few large banks scattered throughout the country. The obvious solution would seem to be a comparatively small number of big banks, each of which operated a number of branches or agencies in the territory surrounding its head office.

But, whereas the increase in the size of commercial banks has occurred without exciting undue comment, the subject of branch banking is still a matter of heated controversy. The National Banking Act made no provision in this regard, but for many years it was the policy of the Comptroller of the Currency to prohibit the creation of branches. Later a state bank, which subsequently took out a national charter, was allowed to operate such branches as it possessed before the change, and still more recently, a national bank which amalgamated with another bank was permitted to continue to transact business at both offices. In 1922, the Attorney-General ruled that national banks might open offices in the same city as that in which the parent bank was situated, and, partly as a result of the discussion which followed upon this decision, the McFadden Act in 1927 gave national banks the power to operate branches when they were situated in states which granted the same privilege to state banks.

The burden was, therefore, thrown back upon the states,

but even in state legislation there is no uniformity in regard to branch banking. While seventeen states specifically prohibit the operation of branches, twenty-two specifically permit it. Of these latter, ten states permit the operation of branches throughout the state, while the remaining twelve only allow branches within the city in which the parent bank is situated. The remainder of the states have no specific legal provision on the subject of branches.[5]

The question is obviously a very complex one, and it may be suggested that a far better guide to present tendencies is to be found in current banking practice than is furnished by legal regulations. No man in the United States has been more enthusiastic for branch banking than Amadeo Giannini, the presiding genius of the Transamerica Corporation, with resources amounting to $2.8 billions, and operating some 300 branches in California and New York. Beginning in California (which permits state-wide branch banking) with the Bank of Italy, he spread his organization across the country in 1928 by purchasing the Bank of America in New York City. But it is of interest to notice that the phenomenal expansion of the branch banking activities of Mr. Giannini has occurred since 1920. In the middle of that year the Bank of Italy had but 25 branches, all of which were in California.

Although the growth of this organization, which has made it the largest branch banking system in the United States, may be taken as indicative of the desire of many bankers to carry out a policy of extensive concentration, the laws and regulations which govern their activities in many sections of the country make it impossible for them to create branches. For this reason, it has been necessary to achieve the same result by more devious methods, and there have been created extensive group banking systems, which are so organized that control is exercised either by a holding company or by a trust, or through

[5] This situation, existing during the early part of 1930, will in all probability be subject to change during the near future, since there are many indications of a widespread desire for increased branch banking development.

some such indirect plan. Such an arrangement is legal under the existing codes, and, while the unification of the various component banks is not quite as complete as it would be in the case of a branch banking system, it is nevertheless possible to secure central control and a wide geographic diversity in the aggregate resources of the whole group.

According to a study made by the American Bankers Association there were, in 1929, 273 such banking groups in the United States involving 1,858 banks with aggregate resources in excess of $13 billions. Some of these groups included from 50 to 100 banks. The fact that 7½% of all the commercial banks of the country and 18% of its banking resources are, at the present time, included in such groups, offers sufficient evidence of the desire of many bankers to extend their operations over a larger geographic area than is legally permitted under existing banking regulations. Nor are these groups confined to any one section of the country. In New England, we have the First National-Old Colony group, including 19 banks with aggregate resources of $700 millions; in Minnesota, the Northwest Bancorporation with 84 banks and $465 millions of aggregate resources; in Utah, the First Security Corporation including 25 banks with $48 millions. The list might be indefinitely prolonged, for such banking groups are to be found in all parts of the country where branch banking is not freely permitted.

But it must not be imagined that the bankers of the United States are unanimously in favor of these developments. There are many bankers and business men who regard "free banking" as a valuable tradition, which should be preserved at all costs. It is contended that the large branch or group banking system will be impersonal; that the local manager will not be interested in the community, and will know little about local conditions. Among the typical statements of such bankers, the following appears in a recent symposium: "We hold the view that America has been built up by independent individual effort which has resulted in the present community life of the nation.

These communities have been built up by taxes and by voluntary contributions—in many cases the contributions have equaled, if not exceeded, the taxes collected. . . . In this manner a higher civilization was achieved than has been the case in any other country. It appears to us that the chains and branches of all manner of businesses, and particularly of banking, are engaged in skimming the cream from the high standards attained. . . . They take from, but do not add to, the community."

But, despite this staunch adherence to a mythological independence and traditional individuality, it is hard to see how branch banking can be dangerous if intensive concentration is beneficial. The results of concentration are identical in both cases, and it is shortsighted to suggest that the small communities would suffer in consequence of such a development. All the experience of other countries, and of those sections of the United States where group banking exists, tends to show that the branch office can render a better service to the community than could the small independent bank. The manager of such a branch is usually a banker of greater experience and better training than the president of a local institution. Moreover, the development of branch banking does not drain funds from the rural communities to the large financial centers. The truth, under efficient management and sound banking practice, is just the reverse. A small local bank must invest a portion of its funds in distant communities in order to obtain an adequate diversification of its risks, but, in the case of a branch banking system, safety depends upon the diversification of risks *for the system as a whole,* and each office would be encouraged to invest a larger portion of its funds in the area in which it is situated. Sound banking principles are more likely to dominate the larger institutions resulting from concentration, and, if we assume this, it is clear that branch banking would result in greater service to the customer, a safer banking system, and a more equal distribution of funds.

Conclusions.—In an age which is dominated by business integration and the rationalization of industry, it is inevitable that banking concentration must proceed steadily. To deny the desirability of such a development in the financial world would be to question the whole basis of American civilization. Arguments can be raised to prove the social benefits of the individual handicraftsman, but nobody would suggest the replacement of the United States Steel Corporation by thousands of individual iron workers. The present economic era is one in which large-scale production is being rapidly developed, and economic activity centralized, in order that the work of society may be done with a maximum of efficiency and a minimum of effort. The social results of such a development are not to be found in the pleasure of working in a factory (although that may be quite as great as was the joy of the worker in a medieval "shop"), but in the increased amount of leisure gained by the individual, and the increase and variety of his stock of wealth. The whole structure of human society is changing gradually, and, as a result, it is necessary to regard economic social problems from a new angle.

Since banking occupies a nuclear position in the whole economic organization of society, we are forced to the conclusion that the factors causing consolidation in all else apply to banking with sufficient force to make further concentration, both intensive and extensive, not only inevitable, but, in the circumstances, wise.

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CHAPTER 29

THE FINANCIAL SYSTEM

Beginning with the earliest origins of metallic money, we have seen that, as the economic organization has developed, the total supply of money has come to be composed to an ever-increasing extent of bank credit. On the other hand, bank credit itself bears a very close relationship to the stock of capital available in the community at any given moment of time. Around these twin problems of the value of money and the distribution of capital we have built up our discussion, and in previous chapters we have presented the various financial institutions which have grown up to facilitate the economic activity of society. It is now necessary to view the whole field in perspective, so that we may see the financial system as a unit and place it in its proper position in the wider economic organization.

The Pecuniary Order of Society.—But before doing that we may well pause a moment, to inquire into the merits and demerits of that pecuniary order of society in which we live. For good or ill the activities of mankind, in the more highly developed countries of the world, are inextricably interwoven with the institutions of money and credit. As we saw in the first chapter, most of the transactions which take place involve the use of money, while the desire to acquire a monetary profit has been accepted as the dominating motive of economic activity. On the credit side of the account, it must be admitted that only by the use of money has it been possible to carry on the tremendous expansion of human activity which has characterized the last four centuries. Division of labor is only possible

where a pecuniary order of society exists; and, without widespread division of labor in economic activity, it would have been impossible to produce that vast quantity of wealth which mankind now enjoys. Moreover, the growing interrelationship of the various parts of the world is, in part at least, a result of the use of money, for communication is greatly facilitated by the existence of a general medium of exchange, and of a unit in terms of which all values can be measured. Although the pecuniary order of society has been much criticized by social philosophers, many of whom have attempted to escape from it into some paradise of their own imagining, we are compelled to admit that mankind has not yet invented any substitute, which would fulfil all of the functions of money, and permit that augmentation of human wealth and freedom of economic intercourse, which the use of money has rendered possible.

To admit this is not to allege that the present order of society is perfect. There are serious indictments which must be leveled against our present system, of which the first is the extent to which the love of money has dominated human activity. Although it may be contended that the desire for money is, basically, a desire for the commodities which money will buy, that contention is only a part of the truth. Money is power; it is a sign of social prestige—and for these reasons the accumulation of monetary fortunes is often an aim which has but little relation to the need for commodities of any kind. Although the worst evidences of this tendency are to be found in the United States, where no social aristocracy in the European sense exists, it is rapidly coming to dominate the social organization of European countries. Moreover, to the extent that economic activity is motivated by pecuniary profit, it frequently happens that such activity is not in the interests of the community as a whole. Whether an organic social control of economic activity is at present possible, is a question which we must leave to other writers, but at least we can admit that

the operations undertaken by the community under such a system of control would differ greatly from those on which its members are now engaged. Although we have not yet agreed on any better method of directing economic activity, it has been realized that a pure policy of laissez-faire is no longer possible. In all countries the government has interfered, in some degree, with economic activity, limiting the opportunities for individual pecuniary gain in order to advance the interests of the whole community.

The disadvantages of a pecuniary order of society may, therefore, be said to arise from the misuse of money, rather than from any defects which are inherent in money itself. Money may be said to be an unmitigated advantage to society, but, although it is a useful servant, it may become a hard master. Any social developments should therefore be aimed, not at the destruction of monetary institutions, but at the control of those institutions so that they may be of the maximum service to mankind. "To a greater or less degree all classes are mutually dependent upon the efficient functioning of the pecuniary mechanism; all have a stake in the promotion of financial solidarity and financial prosperity; and what is more significant, all have vested pecuniary interests in the maintenance of the existing economic system."[1] The direct social control of that mechanism thus becomes a matter of considerable importance, and the necessity for a proper understanding of what can be accomplished by the banking system is evident.

The Banking System.—No foundation exists for the argument that one type of banking system is better than another. The financial needs of one country differ substantially from those of another, owing to natural, political, and psychological conditions, and all that is necessary is that the system existing in any place should be so adapted to its environment that it is capable of serving the economic needs of the community.

[1] H. G. Moulton, *Financial Organization of Society*, p. 745.

A mere group of financial institutions does not, however, constitute a *system*, as was apparent from our discussion of banking in the United States prior to the passage of the Federal Reserve Act. Those institutions must be linked together in such a way that all can cooperate in the achievement of ends which are universally held to be desirable. In all countries, banking began with institutions which performed a large number of heterogeneous operations. The medieval banker was equally willing to receive deposits repayable on demand or to accept the loan of funds for a prolonged period; he was as ready to lend money to the merchant for three months as to embark a portion of his funds upon a mining operation which had every appearance of being a long-lived enterprise. Gradually, as we have seen, it came to be recognized that some degree of specialization was desirable, which might be attained either through the creation of separate institutions, or by the creation of separate departments within existing banks. The choice of method was largely determined by factors of legal regulation and economic environment, so that in the United States the commercial paper house and the investment bank arose as specialized institutions, while in Germany the commercial banks tended to create one department after another to meet the various needs of their business customers.

In time, it became apparent that specialization was not sufficient. It was necessary to develop an organization in which all of the various institutions should have a place, each performing specific functions, and relying upon the others for assistance and cooperation. In England, the organization of the various units into what we know as the London money market, may be said to have occurred during the early part of the nineteenth century, not by any legislation or conscious direction, but through a natural process of evolution. In the United States, on the other hand, it was necessary to set up the Federal Reserve System in 1913, and to establish the rights and duties of the greater number of existing financial institutions by legal

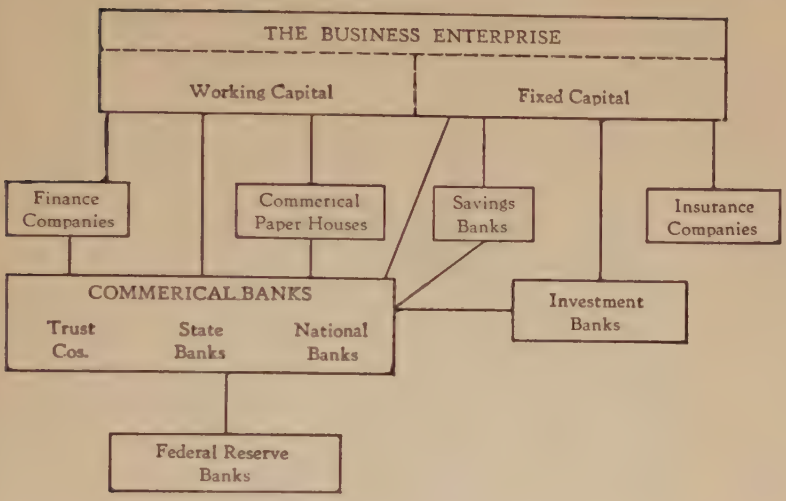

Figure 11. The Banking System

provision. Thus we have seen that national banks were compelled to assume full membership in the System, state banks were allowed to do so, or might accept a lesser obligation by participating in the clearing system. When the agricultural credit system was brought into existence during the following decade, the relationship of the new institutions to the Reserve banks was also prescribed.

Whether the result has been accomplished by evolution or by conscious policy, there has grown up in most countries a *banking system* composed of a varying number of financial institutions, and usually headed by some kind of central bank. Omitting the agricultural credit institutions, Figure 11 gives an idea of the broad relationships which exist between the financial institutions in the United States and the business enterprises which they serve. All of the more important institutions that we have discussed are organically related to one another. The savings bank maintains its reserve account with the commercial bank; the investment bank sells securities to the commercial bank and borrows from that institution the funds

with which to carry those securities which cannot immediately be sold on the market; the finance company and the commercial paper house are dependent upon the commercial bank for the greater portion of the funds with which their operations are carried on; while a large number of the commercial banks are closely related to one another as members of the Federal Reserve System. Clearly the commercial bank occupies a nuclear position in the whole financial system. Around it all the other institutions may be grouped for, "they are dependent upon the solvency of the commercial banking institutions for the safety of their deposited funds; and they are dependent upon the lending power of the commercial banking institutions for the conduct of their business from day to day. . . . Whenever there is a breakdown of the complicated commercial banking mechanism, and an attendant collapse of the great superstructure of credit that has been reared upon the attenuated reserves of specie, the entire financial mechanism is thrown completely out of gear." [2]

Commercial Banking and the Price Level.—Several times during the earlier chapters, we have seen that the services performed by the banking system have given rise to two broad groups of problems: first those connected with the general level of prices, and secondly those arising out of the distribution of the supply of liquid capital. As economic society has developed, metallic coin has gradually given place to bank credit as the principal form of purchasing power, and, whereas in an earlier stage it was possible to suggest that the value of money was dependent upon the metallic value of the standard coin, it has become increasingly apparent as our discussion progressed that the volume of bank credit, through its influence upon the unspent margin of society, is the chief determinant of the general level of prices. The credit policy of commercial banks,

[2] Moulton, *op. cit.*, p. 467.

ness transactions. Without any activity on his own part, the entrepreneur is able to reap an increased money profit when prices are arising, and, as a result, there is an acceleration in the pace of general business activity. On the other hand, a contraction of credit may cause a fall in prices, which produces a temporary crisis, followed by business stagnation. Moreover, we have seen that changes in the value of money cause a redistribution of the wealth of society, unjustly depriving some groups of a portion of their substance in order to increase the rewards of other groups that have performed no social service that warrants the increase.

The commercial banks, acting separately, were unable to formulate any policies which would correct this situation. They were compelled by competition to carry on their operations in a manner which accentuated the severity of business fluctuations, and increased the resultant economic loss and social distress. Within each country, it will be remembered, it became necessary to create a central banking institution to assume the leadership of the commercial banking system. To the central bank was given the authority to formulate a general credit policy, which should be in the interests of the whole community, and, if the other banks did not readily cooperate in the execution of that policy, it was possible for the central institution to exercise measures of forceful persuasion. While the aim of central banking policy before the war was primarily the preservation of the national gold reserve, there has been, since the war, a wide realization that this was not enough. Although the aims of monetary stabilization are by no means clear as yet, and no general agreement exists as to the precise methods by which stabilization should be secured, there has been a widespread recognition of the fact that the central bank should adopt a credit policy which tends to prevent undue fluctuations in the price level.

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[2] Moulton, *op. cit.*, p. 467.

Such a policy was adopted by the Federal Reserve System in 1923, and has met with comparative success in the field of commodity prices. But in other parts of the world there has been a feeling that the central banks were not sufficiently powerful to carry out similar policies, while some fears have been expressed as to the adequacy of gold production to render possible a stable price level on the gold standard. Many have, therefore, looked forward to the time when international cooperation of central banks should facilitate the stabilization of the value of gold, thus simplifying the task which faces each central bank in its attempt to stabilize the monetary system over which it presides. The Bank for International Settlements has, as we have seen, created the machinery by means of which such an ideal may be attained, if the central banks of the world are convinced of its desirability. A stage has, therefore, been reached in which the credit policy of the banking system can do much to eliminate those variations in the price level which have exercised so harmful an influence upon continuous business activity, but the problem is by no means solved. Indeed, it is only during the last decade that any attempt has been made to formulate a definite monetary policy along these lines, and many years will pass before a method has been evolved by which the desired aim can be satisfactorily achieved.

The Distribution of Liquid Capital.—Entirely apart from questions connected with the general level of prices, there are acute problems facing the banking system in regard to the distribution of liquid capital. The total volume of bank deposits represents a volume of unspent purchasing power which is available for commercial credit purposes. By lending a portion of these funds the banker gives to the borrowing enterprise the power to go into the market and purchase materials and labor—gives in fact the power to use, for the time being, a portion of the liquid capital of society. Regarded from this angle, the commercial banking system constitutes a huge reser-

voir of liquid capital, which is drawn upon when loans are made to business enterprises and replenished when such loans are repaid. Provided no expansion of bank credit takes place, the total contents of the reservoir do not change, but they will be successively used by the numerous enterprises which receive accommodation from the individual banks. On the other hand, there is another reservoir of investment credit, nominally controlled by the investment bankers. Into this reservoir flow the savings of the community, and out of it funds flow to those enterprises which have disposed of securities to the investment banks. In theory, therefore, this reservoir is merely an intermediary pool between the saver and the borrowing enterprise, for the latter does not repay the loan until after many years, in the case of bonds, while in the case of an issue of stocks it is never repaid.

To the economist, the pool of commercial credit will be representative of a stock of raw materials, semi-finished goods, etc. —the working capital of the community—while the machinery, buildings, and other fixed capital of the community will be represented by the pool of investment credit. Such a distinction is valid in most cases, since the commodities which constitute the supply of fixed capital are different from those which compose the working capital of the community. But before the funds have been spent no differentiation is possible. Funds raised through the investment banker may be used for working capital purposes, and have been to an increasing extent during the post-war years, while the accommodation extended by the commercial bank may be used for fixed capital purposes. Moreover, as we have already seen, the commercial banks supply a large amount of funds to the investment credit pool, both by the loans which they grant to investment banking institutions, and by the direct purchase of securities. From the viewpoint of the financial system we must, therefore, regard the two reservoirs as connected by a pipe, through which funds may readily be drawn from one to the other. To a growing extent,

it is necessary to regard the total supply of credit funds as one large pool, which will be drawn upon for both commercial and investment credit needs.

This situation has been particularly evident during the third decade of the twentieth century. Owing to improvements in transportation and communication, the inventories of business enterprises have tended to be smaller than was previously the case, so that the demands for bank loans have diminished considerably. In addition, the facility with which issues of stock could be sold on the investment market, caused many business enterprises to raise in this way the funds needed for working capital purposes, thus decreasing still further their demand for bank credit. On the other hand, the commercial banks have supplied increasing amounts of credit to the investment market, partly in the ways already mentioned, and to an even greater extent by loans to brokers and speculators against investment securities as collateral.

As a result of this development, it becomes increasingly difficult to distinguish between genuine savings and bank credit. Once the funds have entered the market, any such distinction becomes entirely obliterated, and we are forced to concern ourselves with the total supply of credit funds, and the aggregate demand for those funds. The banking system, either at its own discretion or under the direction of the government, is charged with the duty of distributing these funds among borrowing enterprises in such a way that the community will derive the maximum economic benefit. But, whereas such a distribution was previously possible in the case of commercial credit, the commercial banks in the United States have very little control over the investment credit borrowings of their customers. The two classes of credit are rigidly separated in legal regulations, even when they are indistinguishable in point of fact. Since funds raised from bank loans, or the sale of securities, may in fact be used indiscriminately by the borrow-

ing enterprise to finance its projects, it is apparent that what is needed is an effective control over the *total* volume of credit, so that the *total* borrowings of each enterprise may be taken into account. In view of the liquidity of credit, no other method will satisfactorily enable the banking system to distribute the supply of capital in the manner most beneficial to the community, but under the existing banking code, such a control is almost impossible.

Owing to its inability to direct the flow of investment credit, the Federal Reserve System cannot attain complete control over the money market, while the investment bankers are similarly handicapped by their inability to control the commercial banking system. If any scientific control of credit is to be exercised, and the distribution of capital properly directed, some dominant control is necessary—but it is by no means clear how this result will be attained.

The Future of Banking.—It is frequently contended by socialistic writers that banking will disappear when the social organization is based upon the principles of their creed, but it is difficult to see how the services of the banking system can be dispensed with as long as we are to base our economic organization upon the principle of division of labor. Economic activity is indubitably facilitated by the operations of the banking system, and, although we may admit that the power exercised by the banker in directing the flow of liquid capital should be in the hands of the government itself, a change of control would not eliminate the necessity for the system. As we have seen in an earlier chapter, there are many arguments which favor a policy of governmental direction of the banking system, for, by the operations of that system, the policy of social control, in the interests of the community as a whole, could more easily be achieved.

Until such control is exercised, and there is apparently no immediate prospect of such action in the United States, the

bankers have themselves, in many cases, regarded their calling as one of public service. It will be recalled that in our discussion of credit we pointed out that the practice of credit granting is yearly becoming more standardized. The bankers tend to establish certain criteria, and to make reasonable extensions of credit to all who can satisfactorily meet the conditions so prescribed. While such a recognition of the public-service nature of banking does not obviate the necessity of public control, it does make the need for such control less imperative by correcting the outstanding abuses which have sometimes characterized the operations of bankers in the past. While no final solution has been found, as yet, to either of the major problems which face the banking system, mankind has traveled a long way along the road, and is now able to see the goal toward which it is traveling along the road. The minor operations which the commercial banks had undertaken—the advising of businesses and the rendering of assistance in solving the financial problems of corporations—are being assumed by the business enterprises themselves. The large corporate units of the present day have found it profitable to set up within their own organizations financial departments which are competent to handle most of the financial routine arising out of the normal activities of the business. As a result, the commercial banking system is becoming free to devote its attention to the two major problems—the control of the total volume of credit, and the equitable distribution of that credit among business enterprises. As an outstanding American scholar has recently said, "the banking question of the present day is undoubtedly recognized by all careful students as being fundamentally a question of social organization and control; its immediate significance chiefly found in its effect upon the distribution of wealth; its ultimate significance found in connection with the bearing it has upon the production and its power to direct production into new and different channels."

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APPENDIX

CONVENTION RESPECTING THE BANK FOR INTERNATIONAL SETTLEMENTS

The duly authorized representatives of the Governments of Germany, of Belgium, of France, of the United Kingdom of Great Britain and Northern Ireland, of Italy and of Japan of the one part

And the duly authorized representatives of the Government of the Swiss Confederation of the other part

Assembled at The Hague Conference in the month of January, 1930, have agreed on the following:—

Article 1.

Switzerland undertakes to grant to the Bank of International Settlements, without delay the following constituent charter having force of law: not to abrogate this charter, not to amend or add to it, and not to sanction amendments to the Statutes of the Bank referred to in paragraph 4 of the charter otherwise than in agreement with the other signatory Governments.

Article 2.

Any dispute between the Swiss Government and any one of the other signatory Governments relating to the interpretation or application of the present Convention shall be submitted to the Arbitral Tribunal provided for by The Hague Agreement of January, 1930. The Swiss Government may appoint a member who shall sit on the occasion of such disputes, the President having a casting vote. In having recourse to this Tribunal the Parties may always agree between themselves to submit their dispute to the President or to one of the members of the Tribunal chosen to act as sole arbiter.

Article 3.

The present Convention is entered into for a period of 15 years. It is entered into on the part of Switzerland under reserve of ratification and shall be put into force as soon as it shall have been ratified by the Government of the Swiss Confederation.

The instrument of ratification shall be deposited with the Ministry of Foreign Affairs at Paris. Upon the entry into force of the Convention, the Swiss Government will initiate the necessary constitutional procedure in order that the assent of the Swiss people may be obtained for the maintenance in force during the whole of the Bank's existence of the provisions of the present Convention. As soon as these measures have become fully effective the Swiss Government will notify the other signatory Governments and these provisions shall become valid during the Bank's existence.

CONSTITUENT CHARTER OF THE BANK FOR INTERNATIONAL SETTLEMENTS

Whereas the Powers signatory to The Hague Agreement of January, 1930, have adopted a Plan which contemplates the founding by the Central Banks of Belgium, France, Germany, Great Britain, Italy and Japan and by a financial institution of the United States of America of an International Bank to be called the Bank for International Settlements;

And whereas the said central banks and a banking group including Messrs. J. P. Morgan and Company of New York, the First National Bank of New York, New York, and the First National Bank of Chicago, Chicago, have undertaken to found the said Bank and have guaranteed or arranged for the guarantee of the subscription of its authorized capital amounting to five hundred million Swiss Francs equal to 145,161,290.32 gram, fine gold, divided into 200,000 shares;

And whereas the Swiss Federal Government has entered into a treaty with the Governments of Germany, Belgium, France, Great Britain, Italy and Japan whereby the said Federal Government has agreed to grant the present Constituent Charter of the Bank for International Settlements and not to repeal, amend or supplement the said Charter and not to sanction amendments to the Statutes of the Bank referred to in Paragraph 4 of the present Charter except in agreement with the said powers;

1. The Bank for International Settlements (hereinafter called the Bank) is hereby incorporated.
2. Its constitution, operations and activities are defined and governed by the annexed Statutes which are hereby sanctioned.
3. Amendment of Articles of the said Statutes other than those enumerated in Paragraph 4 hereof may be made and shall be put into force as provided in Article 59 of the said Statutes and not otherwise.

4. Articles 2, 3, 4, 9, 15, 20, 25, 28, 46, 53, 56, 59 and 60 of the said Statutes shall not be amended except subject to the following conditions: the amendment must be adopted by a two-thirds majority of the Board, approved by a majority of the General Meeting and sanctioned by a law supplementing the present Charter.

5. The said Statutes and any amendments which may be made thereto in accordance with Paragraphs 3 or 4 hereof respectively shall be valid and operative notwithstanding any inconsistency therewith in the provisions of any present or future Swiss law.

6. The Bank shall be exempt and immune from all taxation included in the following categories:—

(a) stamp, registration, and other duties on all deeds or other documents relating to the incorporation or liquidation of the Bank;

(b) stamp and registration duties on any first issue of its shares by the Bank to a central bank, financial institution, banking group or underwriter at or before the time of incorporation or in pursuance of Article 7 or 9 of the Statutes;

(c) all taxes on the Bank's capital, reserves or profits, whether distributed or not, and whether assessed on the profits of the Bank before distribution or imposed at the time of distribution under the form of a coupon tax payable or deductible by the Bank. This provision is without prejudice to the State's right to tax the residents of Switzerland other than the Bank as it thinks fit;

(d) all taxes upon any agreements which the Bank may make in connection with the issue of loans for mobilizing the German annuities and upon the bonds of such loans issued on a foreign market;

(e) all taxes on the remunerations and salaries paid by the Bank to members of its administration or its employees of non-Swiss nationality.

7. All funds deposited with the Bank by any Government in pursuance of the Plan adopted by The Hague Agreement of January, 1930, shall be exempt and immune from taxation whether by way of deduction by the Bank on the behalf of the authority imposing the same or otherwise.

8. The foregoing exemptions and immunities shall apply to present and future taxation by whatsoever name it may be described.

and whether imposed by the Confederation or by the cantonal, communal or other public authorities.

9. Moreover, without prejudice to the exemptions specified above, there may not be levied on the Bank, its operation or its personnel any taxation other than that of a general character and to which other banking establishments established at Basle or in Switzerland, their operations and their personnel, are not subjected *de facto* and *de jure*.

10. The Bank, its property and assets and all deposits and other funds entrusted to it shall be immune in time of peace and in time of war from any measure such as expropriation, requisition seizure, confiscation, prohibition or restriction of gold or currency export or import, and any other similar measures.

11. Any dispute between the Swiss Government and the Bank as to the interpretation or application of the present Charter shall be referred to the Arbitral Tribunal provided for by The Hague Agreement of January, 1930.

The Swiss Government shall appoint a member to sit on the occasion of such dispute, the President having a casting vote.

In having recourse to the said Tribunal the Parties may nevertheless agree to submit their dispute to the President or to a member of the Tribunal chosen to act as sole Arbiter.

Done at The Hague, the 20th January, 1930.

ANNEX

STATUTES OF THE BANK FOR INTERNATIONAL SETTLEMENTS

Chapter I.

Name, Seat and Objects.

Article 1—There is constituted under the name of the Bank for International Settlements (hereinafter referred to as the bank), a company limited by shares.

Article 2—The registered office of the bank shall be situated at Basle, Switzerland.

Article 3—The objects of the bank are: To promote the cooperation of central banks and to provide additional facilities for international financial operation; and to act as trustee or agent in regard to inter-

national financial settlements entrusted to it under agreements with parties concerned.

ARTICLE 4—As long as the new plan as defined in The Hague Agreement of January, 1930 (hereinafter referred to as the plan), is in force the bank (1) shall carry out the functions assigned to it in the plan; (2) shall conduct its affairs with a view to facilitating the execution of the plan, and (3) shall observe the provisions of the plan in the administration and operations of the bank; all within the limits of the powers granted by these statutes.

During the said period the bank as trustee or agent for the governments concerned shall receive, administer and distribute the annuities paid by Germany under the plan; shall supervise and assist in the commercialization and mobilization of certain portions of the aforesaid annuities; and shall perform such services in connection with the payment of German reparations and the international settlements connected therewith as may be agreed upon by the bank with the governments concerned.

CHAPTER II.

CAPITAL.

ARTICLE 5—The authorized capital of the bank shall be 500,000,000 Swiss gold francs, equivalent to 145,161,290.32 gr. fine gold. It shall be divided into 200,000 shares of equal gold nominal value. The nominal value of each share shall also be expressed on the face of each share in terms both of dollars and of the currency in which it is issued, converted at gold mint parity.

ARTICLE 6—Subscription of the total authorized capital having been guaranteed in equal parts by the Banque Nationale de Belgique, the Bank of England, the Banque de France, the Reichsbank, the Banca d'Italia, Messrs. X, acting in place of the Bank of Japan, and Messrs. Y of New York, the bank may begin business as soon as the minimum of 112,000 shares has been subscribed.

ARTICLE 7—Section 1: During the two years following incorporation the board of directors of the bank (hereinafter referred to as the board) shall arrange for the subscription of any unissued portion of the authorized capital.

Section 2: This unissued portion may be offered to the central banks or other banks of countries which have not participated in the original subscription. The selection of the countries in which such shares shall be offered for subscription and the amount to be subscribed in each shall be determined by the board by a two-thirds

majority, provided that offers of shares shall only be made in the countries interested in reparations or in countries whose currencies, in the opinion of the board, satisfy the practical requirements of gold or the gold exchange standard, and that the amount issued in any one of these countries shall not exceed 8,000 shares.

Section 3—The seven banking institutions mentioned in Article 6 shall in accordance with their several guarantees subscribe or arrange for subscription in equal proportions of any part of the authorized capital which at the end of two years remains unsubscribed.

Article 8—Section 1: Twenty-five per cent only of the value of each share shall be paid up at the time of subscription. The balance may be called up at a later date or dates at the discretion of the board. Three months' notice shall be given of any such calls.

Section 2: If a shareholder fails to pay any call on a share on the day appointed for payment thereof the board may after giving reasonable notice to such shareholder forfeit the share in respect of which the call remains unpaid. A forfeited share may be sold on such terms and in such manner as the board may think fit and the board may execute a transfer in favor of the person or corporation to whom the share is sold. The proceeds of the sale may be received by the bank, which will pay to the defaulting shareholder any part of the net proceeds over and above the amount of call due and unpaid.

Article 9—Section 1: The capital of the bank may be increased or reduced on the proposal of the board acting by a two-thirds majority and adopted by a two-thirds majority of the general meeting.

Section 2: In the event of an increase in the authorized capital of the bank and of the further issue of shares the distribution among the countries shall be decided by a two-thirds majority of the board. The central banks of Belgium, England, France, Germany, Italy, Japan and the United States of America, or some other financial institution of the last-named country acceptable to the foregoing central banks, shall be entitled to subscribe or arrange for subscription in equal proportions of at least 55 per cent of such additional shares.

Section 3: No part of the amount not taken by the banks of these seven countries shall be subscribed in any other country unless it is interested in reparations or at the time of issue its currency in the opinion of the board satisfies the practical requirements of gold or the gold exchange standard.

ARTICLE 10—In extending invitations to subscribe for capital in accordance with Article 7, Paragraph 2, or with Article 9, consideration shall be given by the board to the desirability of associating with the bank the largest possible number of central banks.

ARTICLE 11—No shares shall be issued below par.

ARTICLE 12—The liability of shareholders is limited to the nominal value of their shares.

ARTICLE 13—The shares shall be registered and transferable in the books of the bank.

The bank shall be entitled without assigning any reason to decline to accept any person or corporation as transferee of shares. It shall not transfer shares without the prior consent of the central bank or institution acting in lieu of the central bank by or through whom the shares in question were issued.

ARTICLE 14—Shares shall carry equal rights to participate in the profits of the bank and in any distribution of its assets under Articles 53, 54 and 55 of the statutes.

ARTICLE 15—Ownership of shares of the bank carries no right of voting or representation at the general meeting. The right of representation and of voting, in proportion to the number of shares subscribed in each country, may be exercised by the central bank of that country or by its nominee. Should the central bank of any country not desire to exercise these rights they may be exercised by a financial institution of widely recognized standing and of the same nationality, appointed by the board and not objected to by the central bank of the country in question. In cases where there is no central bank, these rights may be exercised if the board thinks fit by an appropriate financial institution of the country in question appointed by the board.

ARTICLE 16—Any subscribing institution or banking group may issue or cause to be issued to the public the shares for which it has subscribed.

ARTICLE 17—Any subscribing institution or banking group may issue to the public certificates against the shares of the bank owned by it. The form, details and terms of issue of such certificates shall be determined by the bank issuing them in agreement with the board.

ARTICLE 18—Receipt or ownership of shares of the bank or of certificates issued in accordance with Article 17 implies acceptance of the statutes of the bank and a statement to that effect shall be embodied in the text of such shares and certificates.

ARTICLE 19—Registration of the name of the holder of shares in the books of the bank establishes the title to ownership of the shares so registered.

CHAPTER III.

POWERS OF THE BANK.

ARTICLE 20—The operations of the bank shall be in conformity with the monetary policy of the central banks of the countries concerned.

Before any financial operation is carried out by or on behalf of the bank on a given market or in a given currency the board shall afford to the central bank or central banks directly concerned an opportunity to dissent. In the event of disapproval being expressed within such reasonable time as the board shall specify, the proposed operation shall not take place. A central bank may make its concurrence subject to conditions and may limit its assent to a specific operation or enter into a general arrangement permitting the bank to carry on its operations within such limits as to time, character and amount as may be specified. This article shall not, however, be read as requiring the assent of any central bank to the withdrawal from its market of funds to the introduction of which no objection had been raised by it, in the absence of stipulations to the contrary by the central bank at the time the original operation was carried out.

Any governor of a central bank or his alternate or any other director specially authorized by the central bank of the country of which he is a national to act on its behalf in this matter shall, if he is present at the meeting of the board and does not vote against any such proposed operation, be deemed to have given the valid assent of the central bank in question.

If a representative of the central bank in question is absent, or if a central bank is not directly represented on the board, steps shall be taken to afford the central bank or the banks concerned an opportunity to express dissent.

ARTICLE 21—The operations of the bank for its own account shall only be carried out in currencies which in the opinion of the board satisfy the practical requirements of the gold or gold exchange standards.

ARTICLE 22—The board shall determine the nature of the operation to be undertaken by the bank. The bank may in particular:

(a) Buy and sell gold coin or bullion for its own account or for the account of central banks.

(b) Hold gold for its own account under earmark in central banks.

(c) Accept the custody of gold for the account of central banks.

(d) Make advances to or borrow from central banks against gold, bills of exchange and other short-term obligations of prime liquidity or other approved securities.

(e) Discount, rediscount, purchase or sell with or without endorsement bills of exchange, checks and other short-term obligations of prime liquidity, including treasury bills and other such government short-term securities as are currently marketable.

(f) Buy and sell exchange for its own account or for the account of central banks.

(g) Buy and sell negotiable securities other than shares for its own account or for the account of central banks.

(h) Discount for central banks bills taken from their portfolios and rediscount with central banks bills taken from its own portfolio.

(i) Open and maintain current or deposit accounts with central banks.

(j) Accept (1) deposits from central banks on current or deposit account, (2) deposits in connection with trustee agreements that may be made between the bank and governments in connection with international settlements, (3) such other deposits as in the opinion of the board come within the scope of the bank's functions.

The bank may also:

(k) Act as agent or correspondent of any central banks.

(l) Arrange with any central bank for the latter to act as its agent or correspondent. If a central bank is unable or unwilling to act in this capacity the bank may make other arrangements, provided that the central bank concerned does not object. If in such circumstances it should be deemed advisable that the bank should establish its own agency the sanction of a two-thirds majority of the board will be required.

(m) Enter into agreements to act as trustee or agent in connection with international settlements, provided that such agreement shall not encroach on the obligation of the bank toward third parties; and carry out the various operations laid down therein.

ARTICLE 23—Any of the operations which the bank is authorized to carry out with central banks under the preceding article may be carried out with banks, bankers, corporations or individuals of any country, provided that the central bank of that country does not object.

ARTICLE 24—The bank may enter into special agreements with central banks to facilitate the settlement of international transactions between them.

For this purpose it may arrange with central banks to have gold earmarked for their account and transferable on their order, to open accounts through which central banks can transfer their assets from one currency to another and to take such other measures as the board may think advisable within the limits of the powers granted by these statutes. The principles and rules governing such accounts shall be fixed by the board.

ARTICLE 25—The bank may not:

(a) Issue notes payable at sight to bearer.

(b) "Accept" bills of exchange.

(c) Make advances to governments.

(d) Open current accounts in the name of governments.

(e) Acquire a predominant interest in any business concern.

(f) Except so far as necessary for the conduct of its own business remain the owner of real property for any longer period than is required in order to realize to proper advantage such real property as may come into the possession of the bank in satisfaction of claims due to it.

ARTICLE 26—The bank shall be administered with particular regard to maintaining its liquidity, and for this purpose shall retain assets appropriate to the maturity and character of its liabilities. Its short-term liquid assets may include bank notes, checks payable at sight drawn on first-class banks, claims in course of collection, deposits at sight or at short notice in first-class banks and prime bills of not more than ninety days' usance of a kind usually accepted for rediscount by central banks.

The proportion of the bank's assets held in any given currency shall be determined by the board with due regard to the liabilities of the bank.

CHAPTER IV.

MANAGEMENT.

ARTICLE 27—The administration of the bank shall be vested in the board.

ARTICLE 28—The board shall be composed as follows:

(1) The governors for the time being of the central banks of Belgium, France, Germany, Great Britain, Italy, Japan and the United States of America (hereinafter referred to as ex-officio

directors), or if any of the said governors are unwilling or unable to hold office their respective nominees (hereinafter referred to as substitute nominees).

The tenure of office of the substitute nominee shall be within the discretion of the governor by whom he is appointed but shall terminate in any case when that governor vacates office. Any ex-officio director may appoint one person as his alternate who shall be entitled to attend and exercise the powers of director at meetings of the board if the governor himself is unable to be present.

(2) Seven persons representative of finance, industry or commerce appointed one each by the governors of the central banks mentioned in Subclause (1) and being of the same nationality as the governors who appoint them.

During continuance of the liability of Germany to pay reparation annuities two persons of French and German nationality respectively, representative of industry or commerce, appointed by the governors of the Bank of France and of the Reichsbank respectively, if they so desire.

If for any reason the governor of any of the seven institutions above mentioned is unable or unwilling to serve as a director or to appoint a substitute nominee under Subclause (1) or to make an appointment under Subclause (2) the governors of the other institutions referred to, or a majority of them, may invite to become members of the board two nationals of the country of the governor in question, not objected to by the central bank of that country.

Directors appointed as aforesaid other than ex-officio directors or their substitute nominees shall hold office for three years, but shall be eligible for reappointment.

(3) Not more than nine persons to be elected by the following procedure: The governor of the central bank of every country other than those mentioned in Subclause (1), in which capital has been subscribed at the time of incorporation, shall be entitled to submit a list of four candidates of his own nationality for a directorship which may include his own name. Two of the candidates on each list shall be representative of finance and the other two of industry or commerce. From these lists the board may elect by a two-thirds majority not more than nine persons.

Directors so elected shall be divided by lot into three groups as nearly as may be equal in number of which one group shall retire at the end of the first, one at the end of the second and one at the end

of the third financial year of the bank. The retiring directors shall be eligible for re-election.

At the first meeting of the directors and in the second and succeeding financial years the board may elect by a two-thirds majority not more than three directors from a panel of candidates composed of lists of persons used at the first election. The governors of the central banks of every country other than those mentioned in Subclause (1) in which capital has at the date of such meeting been subscribed shall be entitled to submit a list of four persons to be included in the panel. Directors so elected shall hold office for three years but shall be eligible for re-election.

If in any of the countries referred to in the preceding paragraph there is no central bank the board by a two-thirds majority may nominate an appropriate financial institution to exercise the right of submitting a list of candidates for election.

Article 29—In the event of a vacancy occurring on the board for any reason other than the termination of a period of office in accordance with the preceding article, the vacancy shall be filled in accordance with the procedure by which the member to be replaced was selected. In case of directors other than ex-officio directors the new director shall hold office for the unexpired period only of his predecessor's term of office. He shall, however, be eligible for re-election at the expiration of that term.

Article 30—The directors must be ordinarily resident in Europe or in a position to attend regularly at the meetings of the board.

Article 31—No person shall be appointed or hold office as a director who is a member or an official of a government or is a member of a legislative body unless he is the governor of a central bank.

Article 32—Meetings of the board shall be held not less than ten times a year. At least four of these shall be held at the registered office of the bank.

Article 33—A member of the board who is not present in person at a meeting of directors may give a proxy to any other member authorizing him to vote at that meeting on his behalf.

Article 34—Unless otherwise provided by the statutes decisions of the board shall be taken by a simple majority of those present or represented by proxy. In case of an equality of votes the chairman shall have a second or casting vote.

The board shall not be competent to act unless a quorum of directors is present. This quorum shall be laid down in a regulation adopted by a two-thirds majority of the board.

ARTICLE 35—Members of the board may receive in addition to out-of-pocket expenses a fee for attendance at meetings and, or, a remuneration the amounts of which will be fixed by the board subject to the approval of the general meeting.

ARTICLE 36—The proceedings of the board shall be summarized in minutes which shall be signed by the chairman.

Copies of or extracts from these minutes for the purpose of production in a court of justice must be certified by the general manager of the bank.

A record of decisions taken at each meeting shall be sent within eight days of the meeting to every member.

ARTICLE 37—The board shall represent the bank in its dealings with third parties and shall have the exclusive right of entering into engagements on behalf of the bank. It may, however, delegate this right to a member or members of the board or of the permanent staff of the bank, provided that it defines the powers of each person to whom it delegates this right.

ARTICLE 38—The bank shall be legally committed vis-à-vis third parties by the signature of the president or by two signatures either of members of the board or of members of the staff who have been duly authorized by the board to sign on its behalf.

ARTICLE 39—The board shall elect from among its members a chairman and one or more vice chairmen, one of whom shall preside at meetings of the board in the absence of the chairman.

The chairman of the board shall be president of the bank.

He shall hold office for three years and shall be eligible for re-election.

Subject to the authority of the board, the president will carry out the policy and control the administration of the bank.

He shall not hold any other office which in the judgment of the board might interfere with his duties as president.

ARTICLE 40—At a meeting of the board at which the election of a chairman is to take place the chair shall be taken by the oldest member of the board present.

ARTICLE 41—A general manager shall be appointed by the board on proposal of the president. He will be responsible to the president for the operations of the bank and will be chief of its operating staff.

Heads of departments and any other officers of a similar rank shall be appointed by the board on recommendations made by the president after consultation with the general manager.

The remainder of the staff shall be appointed by the general manager with the approval of the president.

ARTICLE 42—Departmental organization of the bank shall be determined by the board.

ARTICLE 43—The board may, if it thinks fit, appoint from among its members an executive committee to assist the president in the administration of the bank.

The president shall be a member and ex-officio chairman of this committee.

ARTICLE 44—The board may appoint advisory committees chosen wholly or partly from persons not concerned in the bank's management.

ARTICLE 45—As long as the plan is in force the board shall convene the special advisory committee referred to in the plan upon receipt of notice therein provided for.

CHAPTER V.

GENERAL MEETINGS.

ARTICLE 46—General meetings of the bank may be attended by nominees of central banks or other financial institutions referred to in Article 15.

Voting rights shall be in proportion to the number of shares subscribed in the country of each institution represented at the meeting.

The chair shall be taken at general meetings by the chairman of the board or in his absence by a vice chairman.

At least three weeks' notice of general meetings shall be given to those entitled to be represented.

Subject to the provisions of these statutes a general meeting shall decide upon its own procedure.

ARTICLE 47—Within three months after the end of each financial year of the bank an annual general meeting shall be held upon such date as the board may decide.

The meeting shall take place at the registered office of the bank.

Voting by proxy will be permitted in such manner as the board may have provided in advance by regulation.

ARTICLE 48—The annual general meeting shall be invited:

(a) To approve the annual report, the balance sheet upon report of the auditors, and profit and loss account and any proposed change in remuneration, fees or allowances of members of the board.

(b) To make appropriations to reserve and to special funds; and to consider declaration of a dividend and its amount.

(c) To elect the auditors for the ensuing year, to fix their remuneration, and

(d) To discharge the board from all personal responsibility in respect of the past financial year.

ARTICLE 49—Extraordinary general meetings shall be summoned to decide upon any proposals of the board:

(a) To amend the statutes.

(b) To increase or decrease the capital of the bank.

(c) To liquidate the bank.

CHAPTER VI.

ACCOUNTS AND PROFITS.

ARTICLE 50—The financial year of the bank will begin April 1 and end March 31. The first financial period will end March 31, 1931.

ARTICLE 51—The bank shall publish an annual report and at least once a month a statement of account in such form as the board may prescribe.

The board shall cause to be prepared a profit and loss account and a balance sheet of the bank for each financial year in time for submission to the annual general meeting.

ARTICLE 52—The accounts and balance sheet shall be audited by independent auditors. The auditors shall have full power to examine all books and accounts of the bank and require full information as to all its transactions. The auditors shall report to the board and to the general meeting and shall state in their report:

(a) Whether or not they have obtained all the information and explanations they required, and

(b) Whether in their opinion the balance sheet dealt with in the report is properly drawn up so as to exhibit a true and correct view of the state of the bank's affairs according to the best of their information and explanations given to them and as shown by the books of the bank.

ARTICLE 53—The yearly net profits of the bank shall be applied as follows:

(a) Five per cent of such net profits or such proportion of 5 per cent as may be required for the purpose shall be paid to a reserve fund, called the legal reserve fund, until that fund reaches an

amount equal in value to 10 per cent of the amount of paid-up capital of the bank for the time being.

(b) Thereafter such net profits shall be applied in or toward the payment of dividends of 6 per cent per annum on the amount of paid-up capital of the bank. This dividend shall be cumulative.

(c) As to the residue (if any) of such net profits, 20 per cent shall be paid to shareholders until a maximum further dividend of 6 per cent (which shall be non-cumulative) is reached, provided that the board may in any year withhold all or any part of this additional payment and place it to the credit of a special dividend reserve fund for use in maintaining the cumulative 6 per cent dividend provided for in the preceding paragraph or for subsequent distribution to shareholders.

(d) After making provision for the foregoing, one-half of the yearly net profits then remaining shall be paid into the general reserve fund of the bank until it equals the paid-up capital. Thereafter 40 per cent shall be so applied until the general reserve fund equals twice the paid-up capital, 30 per cent until it equals three times the paid-up capital, 20 per cent until it equals four times the paid-up capital, 10 per cent until it equals five times the paid-up capital, and from that point onward 5 per cent.

Subsection (d): In case the general reserve fund by reason of losses or by reason of an increase in the paid-up capital falls below the amounts provided for above after having once attained them, the appropriate proportion of yearly net profits shall again be applied until the position is restored.

(e) As long as the plan is in force any remainder of net profits after meeting the foregoing requirements shall be disposed of as follows:

(1) As to 75 per cent to such of the governments or central banks of Germany and the countries entitled to share in the annuities payable under the plan as have maintained time deposits at the bank subject to withdrawal in not less than five years from the time of deposit or after four years on not less than one year's notice. This sum shall be distributed annually in proportion to the size of the deposits maintained by the respective governments or central banks in question. The board shall have power to determine the minimum deposit which would justify the distribution provided for.

(2) As to 25 per cent as follows:

If the German Government elects to make a long-term deposit with the bank withdrawable only on the terms specified under the

subclause above and amounting to the minimum sum of 400,000,000 reichsmarks, the said 25 per cent shall go into a special fund to be used to aid Germany in paying the last twenty-two annuities provided for in the plan.

If the German Government elects to make such long-term deposit amounting to a sum below 400,000,000 reichsmarks, the participation of the German Government shall be reduced in proportion and the balance shall be added to the 75 per cent referred to in Subclause 1 above.

If the German Government elects not to make any such long-term deposit, the said 25 per cent shall be distributed as provided in Subclause 1 above. The special fund referred to above shall carry compound interest reckoned on an annual basis at the maximum current rate paid by the bank on time deposits. If the special fund should exceed the amount required to pay the last twenty-two annuities, the balance shall be distributed among the creditor governments as provided for in Plan

(f) At the expiration of the period referred to in the first paragraph of Subclause (e) the disposal of the remainder of the net profits referred to in Subclause (e) shall be determined by a general meeting on the proposal of the board.

Article 54—A general reserve fund shall be available for meeting any losses incurred by the bank. In case it is not adequate for this purpose, recourse may be had to the legal reserve fund provided for in Article 53 (a). These reserve funds in event of liquidation and after discharge of the liabilities of the bank and the costs of liquidation shall be divided among the shareholders.

Chapter VII.

General Provisions.

Article 55—The bank may not be liquidated except by a three-fourths majority of the general meeting. It shall not in any case be liquidated before it has discharged all the obligations which it has assumed under the plan.

Article 56—(1) If any dispute shall arise between the bank on the one side and any central bank, financial institution or other bank referred to in the present statutes on the other side, or between the bank and its shareholders with regard to the interpretation or application of the statutes of the bank, the same shall be referred for final decision to the tribunal provided for by The Hague Agreement of January, 1930.

(2) In the absence of agreement as to the terms of submission either party to a dispute under this article may refer the same to the tribunal, which shall have power to decide all questions (including the question of its own jurisdiction) even in default of the appearance by the other party.

(3) Before giving a final decision and without prejudice to the questions at issue, the president of the tribunal, or, if he be unable to act in any case, a member of the tribunal to be designated by him, forthwith may, on request of the first party applying therefor, order any appropriate provisional measures in order to safeguard the respective rights of the parties.

(4) The provisions of this article shall not prejudice the right of parties to a dispute to refer the same by common consent to the president or a member of the tribunal as sole arbitrator.

ARTICLE 57—In all cases not covered by the preceding article or by some other provision for arbitration the bank may proceed or be proceeded against in any court of competent jurisdiction.

ARTICLE 58—For the purposes of these statutes:

A central bank means the bank in any country to which has been entrusted the duty of regulating the volume of currency and credit in that country, or where a banking system has been so entrusted the bank forming part of such system which is situated and operating in the principal financial market of that country.

The governor of a central bank means a person who, subject to the control of his board or other competent authority, has direction of the policy and administration of the bank.

A two-thirds majority of the board means not less than two-thirds of the votes (whether given in person or by proxy) of the whole directorate.

ARTICLE 59—Amendments of any articles of these statutes other than those enumerated in Article 60 may be proposed by a two-thirds majority of the board of directors to a general meeting, and if adopted by a majority of the general meeting shall come into force, provided that such amendments are not inconsistent with the provisions of the articles enumerated in Article 60.

ARTICLE 60—Articles 2, 3, 4, 9, 15, 20, 25, 28, 46, 53, 56, 59 and 60 cannot be amended except subject to the following conditions:

The amendment must be adopted by a two-thirds majority of the board, approved by a majority of the general meeting and sanctioned by a law supplementing the charter of the bank.

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